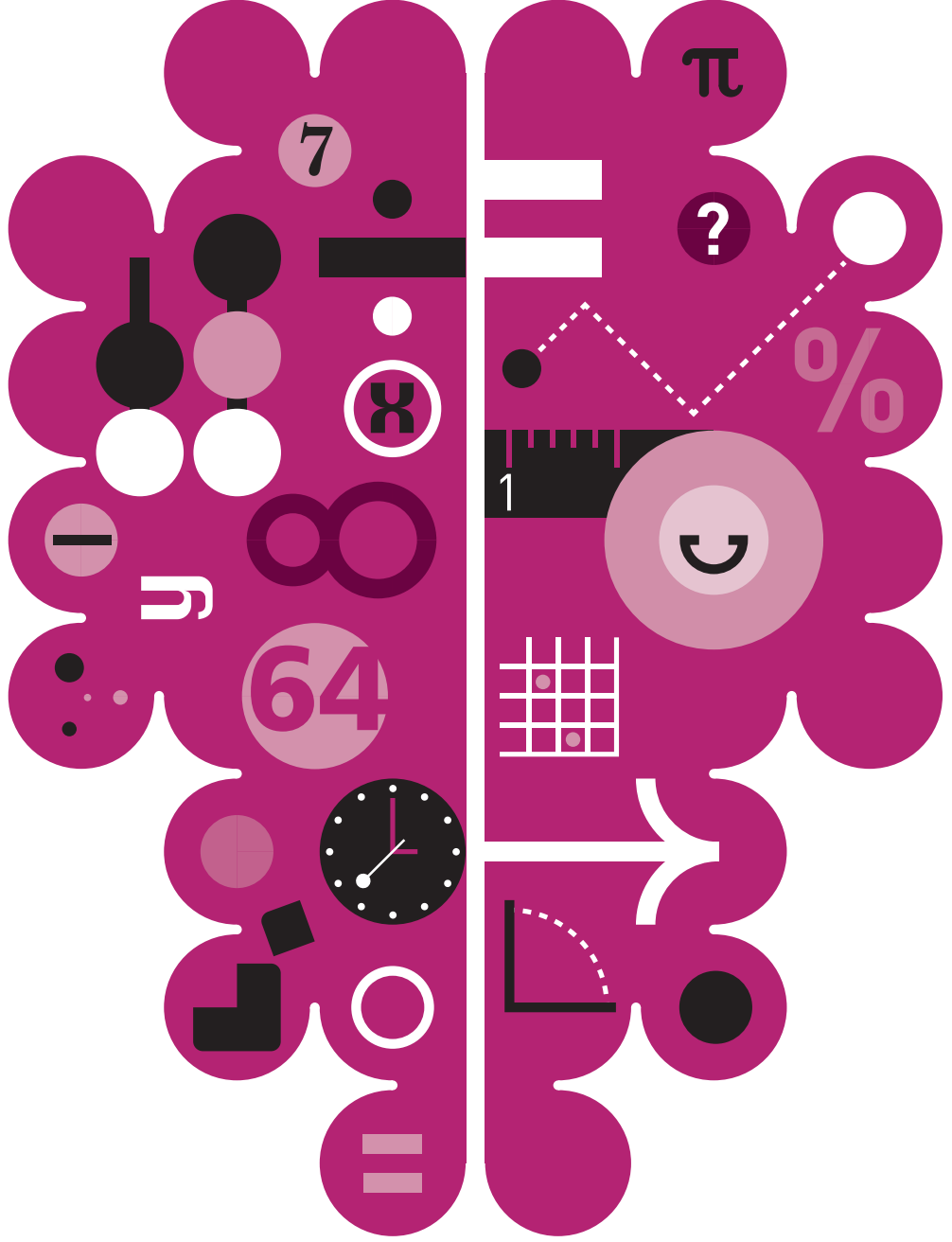


Mental Arithmetic 5

Answers

Name _____



A	Answer
1 $60\,000 + 3\,000 + 70 + 8 =$	<u>63 078</u>
2 $5 \times 8 \times 7 =$	<u>280</u>
3 $8\text{ l } 550\text{ ml} - \frac{1}{4}\text{ l} = \square\text{ l}$	<u>8.3\text{ l}</u>
4 $\frac{5}{6}$ of £42 =	<u>£35</u>
5 a $3\frac{5}{8} = \frac{\square}{8}$	a <u>$\frac{29}{8}$</u>
b $6\frac{4}{5} = \frac{\square}{5}$	b <u>$\frac{34}{5}$</u>
6 $£7.30 + \square\text{ } 10\text{ ps} = £10$	<u>27</u> 10ps
7 $3650\text{ m} = \square\text{ km } \square\text{ m}$	<u>3</u> km <u>650</u> m
8 $180^\circ - (86^\circ + 64^\circ) =$	<u>30^\circ</u>
9 a $\frac{19}{50} = \square\%$	a <u>38%</u>
b $0.64 = \square\%$	b <u>64%</u>
10 $5.08 = \square$ thousandths	<u>5080</u> thousandths
11 $6^3 = 6 \times 6 \times 6 =$	<u>216</u>
12 $£4.50 \div 7 = \square\text{ p r } \square\text{ p}$	<u>64</u> p r <u>2</u> p

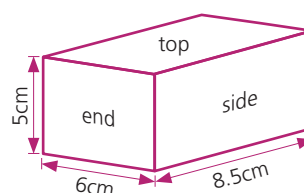
B	Answer
1 Write in words the number which is 400 less than 50 000.	<u>forty-nine thousand six hundred</u>
2 Find in £s the total of 18p, 16p, 25p, 9p.	<u>£0.68</u>
3 Change these improper fractions to mixed numbers.	
a $\frac{35}{6}$ b $\frac{63}{8}$	a <u>$5\frac{5}{6}$</u> b <u>$7\frac{7}{8}$</u>
4 Find the difference between three 50ps and the sum of twelve 5ps and six 2ps.	<u>78</u> p
5 How many times is 25g contained in 4kg?	<u>160</u>
6 Find the change from a €5 note after spending €2.03.	<u>€2.97</u>
7 Which of these numbers are factors of 56?	<u>2 and 7</u>
	2 3 5 7 9
8 What percentage of 2l is 400ml?	<u>20%</u>
9 Approximate	
a 29.56 to the nearest 10	a <u>30</u>
b 180 370 to the nearest 1000.	b <u>180 000</u>
10 What fraction in its simplest form is equal to	
a 95% b 0.04?	a <u>$\frac{19}{20}$</u> b <u>$\frac{1}{25}$</u>
11 Find the cost of 700g at 90p per kilogram.	<u>63</u> p
12 Find the area of a square with sides measuring 20cm each.	<u>400</u> cm ²

C	Answer
1 How many thousandths must be added to 9.073 to make 10?	<u>$\frac{927}{1000}$</u>
2 Find the change from £1.50 after buying 2kg of oranges at 36p per $\frac{1}{2}$ kg.	<u>6</u> p
3 Imran faces SE and turns clockwise through $1\frac{1}{2}$ right angles. In which direction is he now facing?	<u>W</u>
4 A car travels 40km in 30min. How many kilometres will it travel at this speed in $\frac{3}{4}$ h?	<u>60</u> km
5 A mango weighs 250g. How many mangoes together weigh 50kg?	<u>200</u>
6 From the diagram find what fraction of all the employees are	
a men	a <u>$\frac{3}{5}$</u>
b women.	b <u>$\frac{1}{4}$</u>
c If the total number of employees is 400 how many are under 18?	c <u>60</u>

Employees in a shop

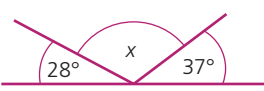
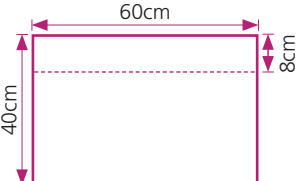



7 Amy spends 30% of her money on a book and saves 60%. If she had 20p left how much had she at first?	<u>£2.00</u>
8 A square with sides measuring 20cm each is cut along both diagonals into four equal triangles. What is the area of each triangle in cm ² ?	<u>100</u> cm ²
9 A bus departs at 19:47 and arrives at its destination 1h 16min later. Write the time of its arrival.	<u>21:03</u>
10 The area of a rectangular path is 75m ² . It is 50cm wide. How long is it in metres?	<u>150</u> m
11 In seven weeks Katie saves £3.15. Find her mean average weekly savings.	<u>45</u> p
12 The measurements of the box are given. Find the area of	
a both the sides	a <u>85</u> cm ²
b both the ends	b <u>60</u> cm ²
c the top and bottom.	c <u>102</u> cm ²

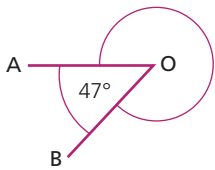
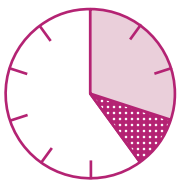


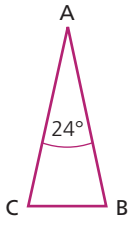
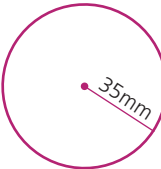
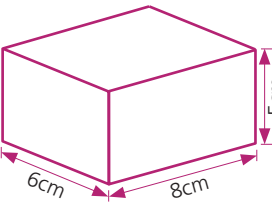
A	Answer
1 Write $10 \times 100 \times 100$ a in digits b in words.	a <u>100000</u> b <u>one hundred thousand</u>
2 $£7.60 \times 20 =$	<u>£152</u>
3 $1 = \frac{1}{4} + \frac{3}{8} + \square$	<u>$\frac{3}{8}$</u>
4 $10 - 6.32 =$	<u>3.68</u>
5 $320\text{min} = \square\text{h } \square\text{min}$	<u>5h 20min</u>
6 $\frac{4}{5}$ of $£4.50 =$	<u>£3.60</u>
7 $0.175\text{l} = \square\text{ml}$	<u>175ml</u>
8 25% of $£7.00 =$	<u>£1.75</u>
9 $2.4\text{m} + 55\text{cm} = \square\text{cm}$	<u>295cm</u>
10 a 1% of $£1 = \square\text{p}$ b 13% of $£1 = \square\text{p}$	a <u>1p</u> b <u>13p</u>
11 $4050\text{mm} = \square\text{m}$	<u>4.05m</u>
12 $\frac{3\text{kg } 420\text{g}}{6} = \square\text{g}$	<u>570g</u>

B	Answer
1 Multiply the sum of 3.6 and 2.4 by 0.4.	<u>2.4</u>
2 Give the date which is five months before 1 February.	<u>1 September</u>
3 Which of these angles are a acute angles b obtuse angles?	a <u>$47^\circ, 89^\circ$</u> b <u>$92^\circ, 138^\circ$</u>
	<u>$47^\circ \quad 92^\circ \quad 138^\circ \quad 89^\circ \quad 210^\circ$</u>
4 Three presents have a mass of 450g, 800g and 230g. Find their total mass in kilograms.	<u>1.480kg</u>
5 By how many millimetres is 780mm greater than 0.5m?	<u>280mm</u>
6 How many 20ps have the same value as $£9.00$?	<u>45 20ps</u>
7 Write the answer to MD – DCCCXC in Roman numerals.	<u>DCX</u>
8 How many times 0.625 is 625?	<u>1000</u>
9 Write as a percentage. a 17p of $£1.00$ b 300g of 1kg	a <u>17%</u> b <u>30%</u>
10 300ml cost 27p. Find the cost per litre.	<u>90p</u>
11 Approximate a $10\frac{3}{10}$ to the nearest whole number b $£13.52$ to the nearest $£$.	a <u>10</u> b <u>£14</u>
12 Find the area of a rectangle measuring 7m long and 1.3m wide.	<u>9.1m^2</u>

C	Answer						
1 By how many pence is thirteen 10ps less than the total of two 50ps and nine 5ps?	<u>15p</u>						
2 Of 300 children in a school, 43% were boys. a What percentage were girls? b How many boys were there in the school?	a <u>57%</u> b <u>129</u>						
3  Find the angle marked x.	<u>115°</u>						
4 A bucket holds 5l when full. Find the quantity of water in litres and millilitres when the bucket is $\frac{3}{4}$ full.	<u>3l 750ml</u>						
5 Which of these fractions is a the largest b the smallest?	a <u>$\frac{3}{4}$</u> b <u>$\frac{3}{5}$</u>						
	<table border="1" style="display: inline-table; border-collapse: collapse;"><tr><td>$\frac{3}{5}$</td><td>$\frac{3}{4}$</td><td>$\frac{7}{10}$</td><td>$\frac{13}{20}$</td></tr></table>	$\frac{3}{5}$	$\frac{3}{4}$	$\frac{7}{10}$	$\frac{13}{20}$		
$\frac{3}{5}$	$\frac{3}{4}$	$\frac{7}{10}$	$\frac{13}{20}$				
6 The attendance at a concert was 6843. a Approximate this number to the nearest thousand. b Find the difference between the actual and the approximate numbers.	a <u>7000</u> b <u>157</u>						
7 Sophie's home is 850m from school. How far in kilometres does she walk in a week of five days, making one return journey each day?	<u>8.5km</u>						
8  A card 60cm by 40cm is cut into strips each 8cm wide. a How many strips are cut? b Find the total length of the strips in metres.	a <u>5</u> b <u>3m</u>						
9 A box containing 60 marshmallows costs $£3.68$. Find the cost of 15 marshmallows.	<u>92p</u>						
10 <table border="1" style="display: inline-table; border-collapse: collapse;"><thead><tr><th colspan="2">Dates of birth</th></tr></thead><tbody><tr><td>Josh</td><td>1.02.2014</td></tr><tr><td>James</td><td>1.10.2011</td></tr></tbody></table> Find the age in years and months of Josh and James on 1 September 2030. Josh James	Dates of birth		Josh	1.02.2014	James	1.10.2011	<u>16yr 7mth</u> <u>18yr 11mth</u>
Dates of birth							
Josh	1.02.2014						
James	1.10.2011						
11 Through how many degrees does the minute hand of a clock turn in 10 minutes?	<u>60°</u>						
12 How many centimetre cubes are needed to make this block?	<u>42</u>						
							

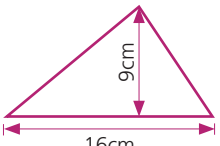
A	Answer
1 Write as a decimal $100 + \frac{3}{10} + \frac{7}{1000}$.	<u>100.307</u>
2 $4\frac{3}{4} \times 8 =$	<u>38</u>
3 $\pounds 2 - (35\text{p} + 63\text{p}) =$	<u>£1.02</u>
4 $1\frac{1}{4}\text{l} - 900\text{ml} =$ ml	<u>350ml</u>
5 $3.8 - 2.76 =$	<u>1.04</u>
6 $35\% = \frac{\text{ }}{100} = \frac{\text{ }}{20}$	<u>$\frac{35}{100} = \frac{7}{20}$</u>
7 g $\times 100 = 4\text{kg}$	<u>40g</u>
8 7.43 a.m. to noon = h min	<u>4h 17min</u>
9 $\frac{553\text{mm}}{7} =$ cm mm	<u>7cm 9mm</u>
10 $830\text{g} \times 5 =$ kg	<u>4.15kg</u>
11 a 10% of $\pounds 12.00 =$	<u>a £1.20</u>
b 70% of $\pounds 12.00 =$	<u>b £8.40</u>
12 $\frac{2}{3}$ of $\pounds 1.08 = \pounds$ 	<u>£0.72</u>

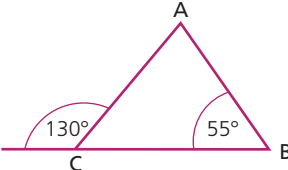
B	Answer
1 Multiply the sum of 29 and 18 by 8.	<u>376</u>
2 Decrease $\pounds 3.50$ by 20%.	<u>£2.80</u>
3  Find the reflex angle AOB.	<u>313°</u>
4 How many times is 0.7m contained in 28m?	<u>40</u>
5 How many days in 26 weeks?	<u>182</u>
6 What percentage of 1kg is 550g?	<u>55%</u>
7 Find the time in hours and minutes from 09:40 to 13:25.	<u>3h 45min</u>
8 What is the cost of 2.5kg at 18p per $\frac{1}{2}\text{kg}$?	<u>90p</u>
9  What percentage of the circle is a shaded b patterned c plain? 	<u>a 30%</u> <u>b 10%</u> <u>c 60%</u>
10 Approximate a 27.9km to the nearest kilometre b 3.450kg to the nearest kilogram.	<u>a 28km</u> <u>b 3kg</u>
11 20 tennis balls cost $\pounds 8.20$. Find the cost of five.	<u>£2.05</u>
12 The area of a rectangle is 30m^2 . Its width is 2.5m. Find its length.	<u>12m</u>

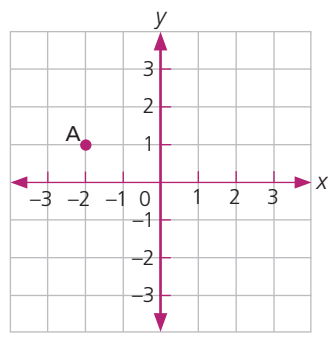
C	Answer
1 A milkshake which cost 43p was paid for with a $\pounds 1$ coin. Which three coins were given as change?	<u>50p 5p 2p</u>
2 In the number $30.\overset{x}{6}3\overset{y}{2}$, how many times less is the 3 marked y than the 3 marked x?	<u>1000</u>
3 Find the product of DX and V and write it using Roman numerals.	<u>MMDL</u>
4 Four children receive these amounts of money: 55p, 66p, 45p and 50p. Find the mean.	<u>54p</u>
5 A paddling pool contained 75l of water. 10% of it was wasted. Find in litres and millilitres the quantity which remained.	<u>67l 500ml</u>
6  ABC is an isosceles triangle. Find the angles at the base. $\angle ABC$ $\angle ACB$	<u>78°</u> <u>78°</u>
7 {1, 2, 3, 6, 9, 18, 36} Two numbers are missing from this set of factors of 36. Which are they?	<u>4 and 12</u>
8 A dog's mass increased from 40kg to 42kg. What was the increase a as a fraction b as a percentage?	<u>a $\frac{1}{20}$</u> <u>b 5%</u>
9 Which is the better buy, A or B, and by how much? A Eight 250g packs of rice at 45p per pack B 2kg of rice at $\pounds 1.60$ per kilogram	<u>B by 40p</u>
10  Find in centimetres the length of a diameter which is twice that of the given circle.	<u>14cm</u>
11 A tin of red paint costing $\pounds 4.50$ will cover 5m^2 . a How many tins must be bought to cover a wall 5m by 3m? b What is the cost?	<u>a 3</u> <u>b £13.50</u>
12  48 centimetre cubes fit exactly into the bottom of this box. The box is 5cm deep. How many cm cubes are needed to fill it?	<u>240</u>

A	Answer
1 $7 \times 10^2 =$	<u>700</u>
2 $\frac{3}{4} + \frac{1}{8} + 2 =$	<u>$2\frac{7}{8}$</u>
3 $100 - (8 \times 9) =$	<u>28</u>
4 $0.085\text{l} = \square \text{ml}$	<u>85ml</u>
5 $5.07 \times 6 =$	<u>30.42</u>
6 $\pounds 27 \div 100 = \square \text{p}$	<u>27p</u>
7 $650\text{g} + 0.5\text{kg} = \square \text{kg}$	<u>1.15kg</u>
8 $\frac{1}{20} = \frac{\square}{100} = \square \%$	<u>$\frac{5}{100} = 5\%$</u>
9 $2\text{h } 37\text{min} + 1\text{h } 33\text{min} = \square \text{h } \square \text{min}$	<u>4h 10min</u>
10 75% of 30kg = $\square \text{kg } \square \text{g}$	<u>22kg 500g</u>
11 $3 + 5 \times 2 =$	<u>13</u>
12 a $18\text{p} = \square \%$ of $\pounds 1$	a <u>18%</u>
b $45\text{cm} = \square \%$ of 1m	b <u>45%</u>

B	Answer
1 Write as a decimal 3085 thousandths.	<u>3.085</u>
2 From the total of 83p and $\pounds 1.06$ take 70p.	<u>$\pounds 1.19$</u>
3 Find the product of 0.6 and 9.	<u>5.4</u>
4 Find the total number of days in the months of September, October and November.	<u>91</u>
5 When a number is divided by 9 the answer is 64 r 5. What is the number?	<u>581</u>
6 Three peaches cost 87p. Find the cost of two peaches.	<u>58p</u>
7 What fraction in its lowest terms is	
a 800g of 1kg	a <u>$\frac{4}{5}$</u>
b 150ml of $\frac{1}{2}\text{l}$	b <u>$\frac{3}{10}$</u>
8 How many times greater is 5030 than 5.03?	<u>1000</u>
9 a 20% of $\pounds 8.50$	a <u>$\pounds 1.70$</u>
b 60% of $\pounds 8.50$	b <u>$\pounds 5.10$</u>
10 Approximate	
a $\pounds 1.095$ to the nearest penny	a <u>$\pounds 1.10$</u>
b 9.150l to the nearest $\frac{1}{2}\text{l}$.	b <u>9l</u>
11 0.5kg of grapes cost $\pounds 1.50$. Find the cost of 700g.	<u>$\pounds 2.10$</u>

12  Find the area of the triangle. 72cm²

C	Answer
1 The volume of a bucket is 1950cm ³ . How many litres of water does it hold? (1cm ³ = 1ml)	<u>1.95l</u>
2 A car travels 360km on 40l of petrol. How many kilometres per litre is this?	<u>9</u>
3 $243 \times 15 = 3645$ Find a 2.43×15 b 24.3×1.5	a <u>36.45</u> b <u>36.45</u>
4 The bill at the end of a meal came to $\pounds 20.40$. 10% was added as a service charge. How much was added?	<u>$\pounds 2.04$</u>
5 Buses run at intervals of 18min. Find the times of the next two buses after 09:37.	<u>09:55 10:13</u>
6  In the triangle ABC, find $\angle ACB$ $\angle BAC$.	<u>50°</u> <u>75°</u>
7 The mass of a 10p coin is 6.5g. What is the mass in kilograms of $\pounds 20$ in 10ps?	<u>1.3kg</u>
8 A line 9cm long represents the distance flown by an aeroplane. If the line is drawn to a scale of 1mm to 50km, find the actual distance.	<u>4500km</u>
9 Follow this number trail. What number do you reach? start at 3 → subtract 7 → add 9 → subtract 12 → \square	<u>-7</u>
10 A rectangle measures 3m long and 70cm wide. Find its area in m ² .	<u>2.1m²</u>
11 Seven lemons cost $\pounds 2.80$. a What fraction of $\pounds 2.80$ will three lemons cost? b Find the cost of five lemons.	a <u>$\frac{3}{7}$</u> b <u>$\pounds 2.00$</u>
12 Point A is at (-2, 1). Write the coordinates of its reflection in the y-axis (the vertical axis).	<u>(2, 1)</u>

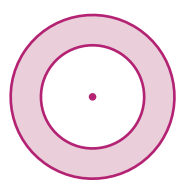


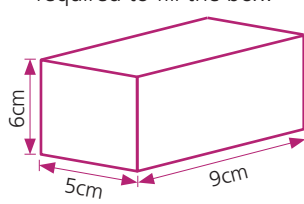
A	Answer
1 Write in digits a 0.7 million b 1.2 million.	a <u>700 000</u> b <u>1 200 000</u>
2 $19p + 27p + 63p = \text{£} \square$	<u>£1.09</u>
3 $12.65\text{km} = \square \text{ m}$	<u>12 650 m</u>
4 $2\frac{7}{8} + 1\frac{1}{8} + 1\frac{1}{4} =$	<u>$5\frac{1}{4}$</u>
5 a 1% of twenty thousand = b 100% of four hundred and nine =	a <u>200</u> b <u>409</u>
6 $\frac{x}{6} = 12$. Find the value of x.	<u>72</u>
7 $1.65\text{m} - 95\text{cm} = \square \text{ cm}$	<u>70 cm</u>
8 $\frac{3}{25} = \frac{\square}{100} = \square \%$	$\frac{12}{100} =$ <u>12%</u>
9 $350\text{ml} \times 9 = \square \text{ l}$	<u>3.15 l</u>
10 $4.050\text{kg} + \square \text{ g} = 5\text{kg}$	<u>950 g</u>
11 $35p \times 100 =$	<u>£35.00</u>
12 $970 \div 40 = \square \text{ r } \square$	<u>24 r 10</u>

B	Answer
1 How many thousandths are there in five point zero eight?	<u>5080</u> thousandths
2 Find the mean average of 2.7, 3.6 and 1.8.	<u>2.7</u>
3 How many times is 250ml contained in 3.5l?	<u>14</u>
4 Increase \$240 by 5%.	<u>\$252</u>
5 How many hours and minutes from midnight to 1.45 p.m.?	<u>13h 45min</u>
6 Which of these numbers is a multiple of 4, 6 and 9? 27 42 54 63 72	<u>72</u>
7 What is the mass in kilograms of six presents each having a mass of 230g?	<u>1.38kg</u>
8 25% of a sum of money is 73p. What is the whole amount?	<u>£2.92</u>
9 Find the cost of 50g at £2.60 per $\frac{1}{2}$ kg.	<u>26p</u>
10 Write the answer to the nearest whole number. $\frac{705}{8} =$	<u>88</u>
11 $\frac{3}{8}$ of a sum of money is 24p. Find $\frac{7}{8}$ of the sum of money.	<u>56p</u>
12 The perimeter of a square is 1.2m. Find a the length of a side in cm b the area of the square in cm^2 .	a <u>30 cm</u> b <u>900 cm^2</u>

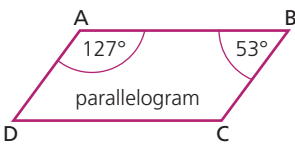
C	Answer
1 Jamil received 12p change from £2 after buying four tins of tomatoes. Find the cost per tin.	<u>47p</u>
2 The diameter of a circle is 15.6cm. Find its radius in millimetres.	<u>78mm</u>
3 The mean mass of three suitcases is 25kg. If two of the cases have masses of 20kg and 28kg respectively, find the mass of the other case.	<u>27kg</u>
4 Which of these fractions or percentages are equal to 0.15? $\frac{1}{4}$ $\frac{3}{10}$ 15% $\frac{3}{20}$ $\frac{18}{100}$ 3%	<u>$\frac{3}{20}$, 15%</u>
5 Find the smallest sum of money which must be added to £2.45 to make it exactly divisible by 9.	<u>7p</u>
6 The chart shows the percentages of adults and children who live on a street of 720 people. a What percentage are girls? b Find the total number of men and women.	a <u>40%</u> b <u>180</u>

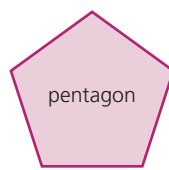
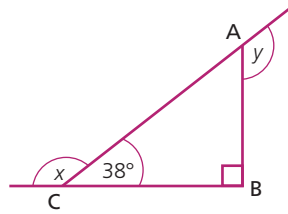
women	men	boys	girls
13%	12%	35%	?

7 A 12-day holiday started on Friday 26 March. On which day and date did the holiday end?	<u>Tuesday 6 April</u>
8 A bath when $\frac{5}{8}$ full holds 60 litres. How many litres does it hold when a $\frac{1}{8}$ full b $\frac{3}{4}$ full?	a <u>12l</u> b <u>72l</u>
9 The price of a ticket is increased from £1 to £1.18. What is the percentage increase?	<u>18%</u>
10  The radius of the inner circle is 56mm and the shaded ring is 16mm wide. Find in centimetres the diameter of the outer circle.	<u>14.4cm</u>
11 The dimensions of a triangle are base 15cm, height 12cm. Find the area of the triangle.	<u>90 cm^2</u>
12 a How many cm cubes fit exactly into the bottom of the box? b How many of these layers are required to fill the box?	a <u>45</u> b <u>6</u>



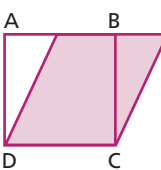
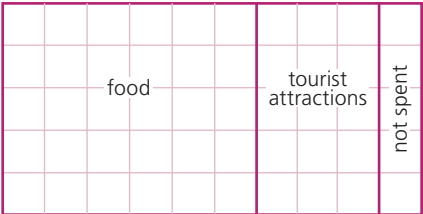
A	Answer
1 $5 \times 10^3 =$	<u>5000</u>
2 $2.805\text{l} = \square \text{ml}$	<u>2805ml</u>
3 $\pounds 0.07 \times 50 = \pounds \square$	<u>£3.50</u>
4 $44\text{mm} + 28\text{mm} + 32\text{mm} = \square \text{cm}$	<u>10.4cm</u>
5 $\frac{7}{8}$ of 640 =	<u>560</u>
6 $1\frac{3}{4}\text{kg} - \square \text{g} = 1.2\text{kg}$	<u>550g</u>
7 $(0.25 \times 4) \div 100 =$	<u>0.01</u>
8 5% of 3000 =	<u>150</u>
9 a $\frac{6}{25} = \frac{\square}{100} = \square \%$ b $\frac{9}{20} = \frac{\square}{100} = \square \%$	a $\frac{24}{100} = 24\%$ b $\frac{45}{100} = 45\%$
10 $0.46 + \square = 0.505$	<u>0.045</u>
11 $3\text{m } 40\text{cm} \times 7 = \square \text{m}$	<u>23.8m</u>
12 $\pounds 34 \div 8 =$	<u>£4.25</u>

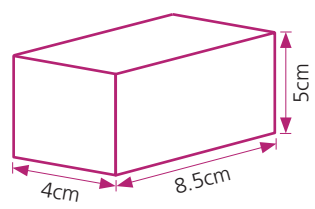
B	Answer
1 How many fifties are there in one hundred thousand?	<u>2000</u>
2 1 tonne = 1000kg. Write in tonnes a 2050kg b 800kg.	a <u>2.05 tonnes</u> b <u>0.8 tonnes</u>
3 Write 59-sixths as a an improper fraction b a mixed number.	a $\frac{59}{6}$ b $9\frac{5}{6}$
4 Find the missing numbers in the sequence. 3.65, 3.8, 3.95, \square , \square	<u>4.1</u> <u>4.25</u>
5 Find in degrees the difference between the temperatures 7°C and -8°C .	<u>15°</u>
6 100 pencils cost $\pounds 7.00$. Find the cost of a 1 pencil b 30 pencils.	a <u>7p</u> b <u>£2.10</u>
7  Find $\angle \text{ADC}$ $\angle \text{BCD}$.	<u>53°</u> <u>127°</u>
8 What percentage is a $\pounds 7$ of $\pounds 20$ b 28kg of 40kg?	a <u>35%</u> b <u>70%</u>
9 How many days inclusive are there from 27 May to 9 June?	<u>14</u>
10 30% of a sum of money is 27p. a Find 10% of the money. b Find 100% of the money.	a <u>9p</u> b <u>90p</u>
11 Divide $\pounds 2.00$ by 7. Give the answer to the nearest penny.	<u>29p</u>
12 Which year is represented by MMXIX?	<u>2019</u>

C	Answer
1 The population of a city increased from $\frac{3}{4}$ million to 1.1 million. Write in digits the number by which the population increased.	<u>350 000</u>
2 A box of doughnuts weighs 400g. a How many boxes can be made from 3.5kg? b How many grams are left?	a <u>8</u> b <u>300g</u>
3 In one week Mark drove 503.6km. Find to the nearest kilometre his mean average daily journey.	<u>72km</u>
4 Which of these numbers do not change in value if the zeros are omitted? 0.740 3.016 0570 0.364	<u>0.740</u> <u>0.364</u>
5  The perimeter of a regular pentagon is 36cm. Find in millimetres a the length of one side b the length of one side of a regular octagon of the same perimeter.	a <u>72mm</u> b <u>45mm</u>
6 In a test, Luca scored 87% of a possible mark of 200. How many marks did he lose?	<u>26</u>
7 Nadeen's date of birth is 20/04/14. She is 1 year 9 months younger than Emma. What is Emma's date of birth?	<u>20/07/12</u>
8  ABC is a right-angled triangle. Find the exterior angles marked x and y.	$\angle x =$ <u>142°</u> $\angle y =$ <u>128°</u>
9 1l of water has a mass of 1kg. If a jar contains 5650ml of water, find the mass of the water to the nearest $\frac{1}{2}$ kg.	<u>5.5kg</u>
10 William's wage was increased from $\pounds 120$ to $\pounds 132$ per week. Find the increase a as a fraction in its simplest form b as a percentage of the original wage.	a $\frac{1}{10}$ b <u>10%</u>
11 The mass of an empty box is 870g. This is $\frac{3}{10}$ of its total mass when filled. Find its total mass when filled in kilograms.	<u>2.9kg</u>
12 A roll of carpet is 50cm wide. Find the length required to cover a surface which measures 8.5m^2 .	<u>17m</u>

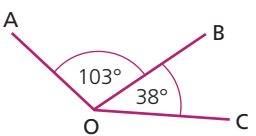
A	Answer
1 Write in digits 1.25 million.	<u>1 250 000</u>
2 $£1.06 + 7p + 94p = £$ 	<u>£2.07</u>
3 $1.35\text{kg} - 900\text{g} =$ g	<u>450g</u>
4 $4.139 = 4 + \frac{\square}{100} + \frac{\square}{1000}$	<u>$\frac{13}{100} + \frac{9}{1000}$</u>
5 $2\frac{3}{8} \times 5 =$	<u>$11\frac{7}{8}$</u>
6 $10000 \div 8 =$	<u>1250</u>
7 $2\text{h } 15\text{min} - 50\text{min} =$ h min	<u>1h 25min</u>
8 $\frac{7}{10}$ of $£1.60 =$	<u>£1.12</u>
9 $0.85 =$ % $= \frac{\square}{20}$	<u>$85\% = \frac{17}{20}$</u>
10 $46\text{cm} \times 30 =$ m	<u>13.80m</u>
11 a 3% of $£1 =$ p	<u>a 3p</u>
b 12% of $£1 =$ p	<u>b 12p</u>
12 $\frac{21250\text{ml}}{5} =$ ml	<u>450ml</u>

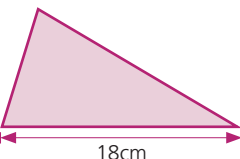
B	Answer
1 Multiply the difference between 1.8 and 2.5 by 6.	<u>4.2</u>
2 What is the mean in millilitres of $\frac{1}{2}\text{l}$, $\frac{1}{4}\text{l}$ and 150ml?	<u>300ml</u>
3 How many times can a length of 15cm be cut from 4.5m?	<u>30</u>
4 What percentage of a 30 is 15 b $£1$ is 23p?	<u>a 50%</u> <u>b 23%</u>
5 Find the two missing numbers in this sequence. $4\frac{1}{2}, 4\frac{1}{8}, 3\frac{3}{4}, \square, \square$	<u>$3\frac{3}{8}$ 3</u>
6 $\frac{1}{2}\text{l}$ of vinegar costs $£1.20$. Find the cost of 200ml.	<u>48p</u>
7 Write the 24-hour clock time which is 27min later than 23:36.	<u>00:03</u>
8 The total mass of nine equal packets is 6kg 750g. Find in grams the mass of one packet.	<u>750g</u>
9 5% of a sum of money is $£0.65$. What is the whole amount?	<u>£13</u>
10 By how many tenths is $6\frac{1}{5}$ greater than $5\frac{1}{2}$?	<u>$\frac{7}{10}$</u>
11 If 1m is divided into seven equal parts, what is the length of each part to the nearest centimetre?	<u>14cm</u>
12 The area of a rectangle is 205cm^2 . Its width is 10cm. Find its length.	<u>20.5cm</u>

C	Answer
1 How many thousandths must be added to 4.206 to make 5? Write the answer as a decimal.	<u>0.794</u>
2 Freya saves 8p per week for a year. How much are her total savings?	<u>£4.16</u>
3 A train journey takes 2h 35min. If a train arrives at 21:05, what was the time of its departure?	<u>18:30</u>
4 There are 50 sheets of paper in a pack. How many packs can be made from twenty thousand sheets?	<u>400</u>
5  ABCD is a square with sides measuring 9cm. Find a the area of the square a <u>81cm²</u> b the area of the shaded parallelogram. b <u>81cm²</u>	
6 The price of a radio is $£60$. By how much is its price increased if it is paid for in eight equal instalments of $£9$ each?	<u>£12</u>
7 A car travelled at an average speed of 90km/h for $1\frac{1}{2}\text{h}$. What distance did it travel?	<u>135km</u>
8 The diagram shows how Emma's holiday money is spent during a week in France. What percentage is spent on a food a <u>60%</u> b tourist attractions? b <u>30%</u> c If the total holiday money is $£125$, how much is not spent? c <u>£12.50</u>	
	
9 Three bananas have a mass of 400g. How many bananas will give a mass of 2.4kg?	<u>18</u>
10 Nathan spent $\frac{1}{4}$ of his money on sweets and $\frac{1}{2}$ of the remainder on bus fares. What fraction of his money was left?	<u>$\frac{3}{8}$</u>
11 Find the difference between $7 + 3 \times 5$ and $(7 + 3) \times 5$.	<u>28</u>
12 Find a the area of the bottom of the box a <u>34cm^2</u> b the volume of the box. b <u>170cm^3</u> In each case give the unit of measurement.	



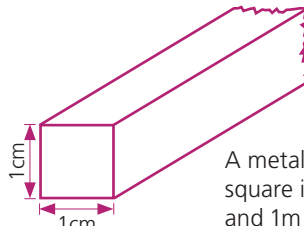
A	Answer
1 $3^4 = 3 \times 3 \times 3 \times 3 =$ <input type="text"/>	81
2 $6.09 \times 7 =$ <input type="text"/>	42.63
3 three 10ps + seven 5ps = £0.73 - <input type="text"/> p	8p
4 20% of 3kg 600g = <input type="text"/> g	720g
5 $\frac{3}{10} + \frac{7}{10} + \frac{9}{10} =$ <input type="text"/>	$1\frac{9}{10}$
6 $\frac{9072}{9} =$ <input type="text"/>	1008
7 $1.750l -$ <input type="text"/> ml = 800ml	950ml
8 $x + x + x + x = 108$. Find the value of x.	27
9 £2.08 = <input type="text"/> 2ps	104 2ps
10 285min = <input type="text"/> h <input type="text"/> min	4h 45min
11 a $\frac{4}{5} =$ <input type="text"/> %	a 80%
b $\frac{3}{10} =$ <input type="text"/> %	b 30%
12 $(3 \times 56p) + (2 \times 56p) =$ <input type="text"/>	£2.80

B	Answer
1 Write as a decimal the sum of 7 tenths and 39 hundredths.	1.09
2 Write the year 2016 using Roman numerals.	MMXVI
3 By how many grams is 2.345kg less than $2\frac{1}{2}$ kg?	155g
4  Calculate the reflex angle AOC.	219°
5 What is the annual interest on £650 at 5%?	£32.50
6 A car travels 28km in 30min. Find its speed in km/h.	56km/h
7 Write in digits the date a 6 months later than 1 Oct. 03 b 4 months before 1 Mar. 96.	a 01/04/04 b 01/11/95
8 750ml of vegetable oil cost 72p. Find the price per litre.	96p
9 A shelf measures 5m long and 20cm wide. Find its area in m ² .	1m ²
10 What is the missing amount of money? $\begin{array}{r} 1.09 \\ 8 \overline{) \text{£ } \square.\square\square} \end{array}$	£8.72
11 Approximate a 199 503 to the nearest 1000 b 7kg 350g to the nearest $\frac{1}{2}$ kg.	a 200 000 b 7.5kg

12  The base of this triangle is double the height. Find the area of the triangle.

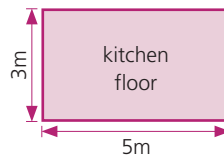
81cm²

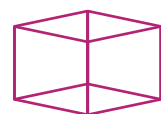
C	Answer
1 A bottle holds 150ml. Find in litres the contents of 20 bottles.	3l
2 300 people attended a concert. 63% were adults and the remainder children. a What percentage were children? b How many adults were present?	a 37% b 189
3 The mean height of three children is 130cm. The heights of two of the children are 105cm and 140cm respectively. Find the height of the third child.	145cm
4 Find the change from £2 and 50p after spending 93p, £1.17 and 28p.	12p
5 $1.8 \times 0.7 = 1.26$ Now write the answers to a 0.18×0.7 b 1.8×70	a 0.126 b 126

6  A metal bar is 1cm square in section and 1m long.

a How many cm cubes can be cut from it? a 100

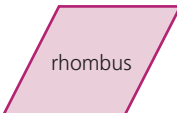
b Write the volume of the bar in cm³. b 100cm³

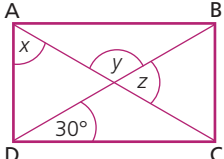
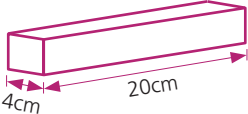

7 The price of 250g of butter was increased from 60p to 66p. Find the increase as a percentage of the original price.	10%
8 A plan is drawn to the scale of 1mm to 50m. What distance in kilometres is represented by a line 10cm long?	5km
9 Eight kittens of equal mass together have a mass of 7kg 400g. a Find the mass in grams of four of the kittens. b What fraction of the total mass is the mass of three of the kittens?	a 3700g b $\frac{3}{8}$
10  How many square tiles with sides 10cm are required to cover the kitchen floor?	1500
11 Five magazines cost £3.78. Find the cost of one magazine to the nearest penny.	76p

12  A skeleton model of a cube with sides 6cm is made by fastening together lengths of straws. Find the total length required.


72cm

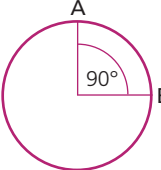
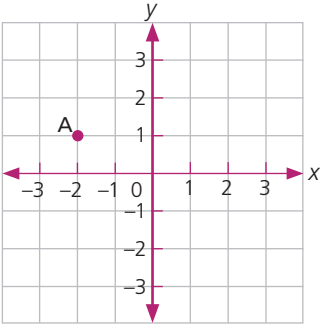
A	Answer
1 Write in digits, five hundred and two thousand one hundred and four.	502 104
2 $7.3 = 10 \times \square$	0.73
3 $£5 - (£3.66 + 54p) = \square p$	80p
4 $\frac{1}{3}$ of 2.850l = \square ml	950ml
5 $9.6\text{cm} - 58\text{mm} = \square$ mm	38mm
6 1% of 23.5kg = \square g	235g
7 $1000 - (8 \times 9) =$	928
8 $350\text{g} + 725\text{g} + 875\text{g} = \square$ kg	1.95kg
9 $1\frac{1}{4} + \frac{7}{8} - \frac{1}{2} =$	$1\frac{5}{8}$
10 a 5% of £36.00 =	a £1.80
b $2\frac{1}{2}\%$ of £36.00 =	b 90p
11 $10 \times y = 0.35$. Find the value of y.	0.035
12 $\frac{£21.56}{7} =$	£3.08

B	Answer
1 Write 35 out of 50 as a a fraction in its simplest form b a percentage.	a $\frac{7}{10}$ b 70%
2 By how many degrees does the temperature rise from -3°C to 9°C ?	12°C
3 $x = 25 - 12 \times 2$ $y = (25 - 12) \times 2$ Find the value of a x b y c y - x.	a 1 b 26 c 25
4 Find the change from a £10 note after paying for three hot chocolates at £2.90 each.	£1.30
5 By how many minutes is $2\frac{3}{4}$ h longer than 1h 55min?	50min
6 8.25l of juice is needed to fill 10 bottles. How many millilitres of juice are in each bottle?	825ml
7 $\frac{1}{2} = 0.5$; $\frac{1}{4} = 0.25$ Write $\frac{1}{8}$ as a decimal fraction.	0.125
8 What number is 17 less than -9 ?	-26
9 What decimal fraction when multiplied by 9 gives 6.3 as the answer?	0.7
10 Which of these numbers are factors of 64? 2 3 4 5 6 7 8 9	2, 4, 8
11 Material costs £7.86 per metre. Find to the nearest penny the cost of 20cm.	£1.57
12  The perimeter of this rhombus is 15.6cm. Find the length of one side in millimetres.	39mm

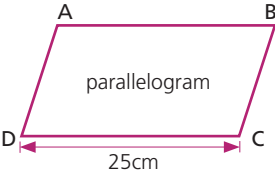
C	Answer
1 A joint of meat had a mass of 2kg 700g. 10% of its mass was lost in cooking. Find the loss in grams.	270g
2 A shop opens from 8.30 a.m. to noon and 1.30 p.m. to 6 p.m. a How many hours is the shop open? b What fraction of the day is it open?	a 8h b $\frac{1}{3}$
3  AC and BD are the diagonals of the rectangle and $\angle BDC$ is 30° . Find the angles marked x, y and z.	$\angle x$ 60° $\angle y$ 120° $\angle z$ 60°
4 25% of a sum of money is £9.76. What is $12\frac{1}{2}\%$ of this amount?	£4.88
5 Place a decimal point in each of these numbers so that the value of the digit 9 is 9 thousandths. a 309 b 79 c 2009	a 0.309 b 0.079 c 2.009
6 Water from a full $\frac{1}{2}$ l jug was poured into a bowl. When the bowl was filled there were 115ml left. What was the capacity of the bowl in cm^3 ?	385 cm^3
7 An apricot costs 34p. How much is saved per apricot by buying a pack of six for £1.92?	2p
8 In one week, $\frac{1}{4}$ million people watched a football match. If 80% of the people were female, how many were male?	50 000
9  A metal bar is 20cm long with a 4cm wide square cross-section. Find its volume.	320 cm^3
10 The approximate distance by road from London to Glasgow is 623km. How long to the nearest $\frac{1}{2}$ h will it take David to make the journey if his average speed is 80km/h?	8h
11 By how much is 10% of £25 greater than 9% of the same amount?	25p
12  A garden consists of an area of grass 9m by 6.5m surrounded by a path 50cm wide. Find a the length b the breadth c the area of the garden.	a 10m b 7.5m c 75 m^2

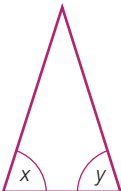

A	Answer
1 $2.703 = \frac{\square}{10} + \frac{\square}{1000}$	$\frac{27}{10} + \frac{3}{1000}$
2 $\frac{4}{5}$ of 1.5kg = \square g	1200g
3 $£0.76 \times 30 =$	£22.80
4 $50\,000 - 970 =$	49030
5 $2\text{h } 37\text{min} + 7\text{h } 53\text{min} = \square$ h	$10\frac{1}{2}$ h
6 $2\text{l } 700\text{ml} \times 8 = \square$ l \square ml	21l 600ml
7 $10^4 = 10 \times 10 \times 10 \times 10 = \square$	10000
8 two 50ps + three 20ps + ten 5ps = $\pounds \square$	£2.10
9 a $27\text{p} = \square\%$ of $\pounds 1.00$ b $35\text{cm} = \square\%$ of 1m	a 27% b 35%
10 $4\frac{3}{8} \times 7 =$	$30\frac{5}{8}$
11 a 50% of $\pounds 3.96 =$ b 75% of $\pounds 9.00 =$	a £1.98 b £6.75
12 Write as decimal fractions. a $\frac{2}{5}$ b $\frac{3}{8}$ c 79%	a 0.4 b 0.375 c 0.79

B	Answer
1 By how many is 1.4 million greater than nine hundred thousand?	500000
2 Subtract 37p from the total of 29p, 21p and 4p.	17p
3 What mass in kilograms is six times 4kg 300g?	25.8kg
4 By how many times is 8.3 greater than 0.083?	100
5 What fraction in simplest form is equal to a 16% b 45%?	a $\frac{4}{25}$ b $\frac{9}{20}$
6 10 sausages cost $\pounds 2.90$. Find the cost of a one sausage b three sausages.	a 29p b 87p
7 A line is 49mm longer than the line AB. What is the length of the line in millimetres?	124mm
	
8 How many times is 2.5 contained in 100?	40
9 How many days inclusive from 19 Mar. 2006 to 5 Apr. 2006?	18
10 $\frac{108.9}{6}$ Write the answer to the nearest whole number.	18
11 Find the cost of 1.3kg at 20p per 100g.	£2.60
12 The perimeter of a rectangle is 85cm. Its length is 28cm. Find its width.	14.5cm

C	Answer												
1 If $\pounds 1.00$ can be exchanged for $\pounds 1.38$, how many euros are received for $\pounds 50$?	€69												
2 When a number is divided by 7 the answer is $208\frac{2}{7}$. Find the number.	1461												
3 A vase holds 5.6l of water. What is the volume of the vase in cm^3 ?	5600 cm^3												
4 Which of these fractions are a greater than $\frac{1}{2}$ b less than $\frac{1}{4}$?	a $\frac{7}{10}, \frac{3}{5}, \frac{8}{12}$ b $\frac{1}{5}, \frac{1}{6}$												
<div style="border: 1px solid #800040; padding: 5px; display: inline-block;"> $\frac{3}{8} \quad \frac{1}{5} \quad \frac{7}{10} \quad \frac{5}{12} \quad \frac{1}{6} \quad \frac{3}{5} \quad \frac{1}{3} \quad \frac{8}{12}$ </div>													
5 Four plants are given 5ml plant food daily. How many days will a 0.3l bottle of plant food last?	15												
6  a What fraction of the circumference of the circle is the arc AB? b If the angle at the centre were 40° , what fraction of the circumference would be its arc?	a $\frac{1}{4}$ b $\frac{1}{9}$												
7 On 21 December the sun rises at 08:03 and sets at 15:50. How many hours and minutes of daylight are there on this day?	7h 47min												
8 Megan saved $\pounds 10$ every week for a year. Her dad then gave her a gift of 20% of her savings. How much did her dad give her?	€104												
9 A piece of ribbon 1m 36cm long is cut into two pieces so that one piece is three times as long as the other. Find the length of each piece.	34cm 102cm												
10 Which of the triangles A, B and C have the same area?	A and C												
<table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse; text-align: center;"> <thead> <tr> <th></th> <th>A</th> <th>B</th> <th>C</th> </tr> </thead> <tbody> <tr> <td>base</td> <td>8cm</td> <td>9cm</td> <td>10cm</td> </tr> <tr> <td>height</td> <td>6cm</td> <td>4cm</td> <td>4.8cm</td> </tr> </tbody> </table>			A	B	C	base	8cm	9cm	10cm	height	6cm	4cm	4.8cm
	A	B	C										
base	8cm	9cm	10cm										
height	6cm	4cm	4.8cm										
11 Point A is at $(-2, 1)$. Write the coordinates of its reflection in the x-axis (the horizontal axis).	$(-2, -1)$												
													
12 A point at $(-3, -3)$ is translated five squares to the right and four squares up. What are its new coordinates?	$(2, 1)$												

A	Answer
1 a $2^5 = 2 \times 2 \times 2 \times 2 \times 2 =$ b $10^5 =$ 	a <u>32</u> b <u>100 000</u>
2 five 5ps + seven 10ps – nine 2ps = 	<u>77p</u>
3 $(73 + 9) = 150 -$ 	<u>68</u>
4 $10.085\text{km} =$ m	<u>10 085m</u>
5 $\frac{y}{100} = 10.64$. Find the value of y .	<u>1064</u>
6 $6.358 = 63$ tenths + thousandths	<u>58 thousandths</u>
7 $550\text{g} \times 6 =$ kg	<u>3.3kg</u>
8 $£36.50 \div 10 =$ £	<u>£3.65</u>
9 $75^\circ + 65^\circ + 90^\circ +$ $^\circ = 360^\circ$	<u>130^\circ</u>
10 $\frac{3}{10}$ of $0.3\text{m} =$ cm	<u>9cm</u>
11 8% of $£3.00 =$ p	<u>24p</u>
12 $17.2 \div 2 =$ 	<u>8.6</u>

B	Answer
1 Write these improper fractions as mixed numbers. a $\frac{74}{5}$ b $\frac{39}{7}$	a <u>$14\frac{4}{5}$</u> b <u>$5\frac{4}{7}$</u>
2 Find in litres the total of 830ml, 360ml and 170ml.	<u>1.36l</u>
3 Of these numbers which is a the largest b the smallest?	a <u>3.333</u> b <u>3.03</u>
3.03 3.33 3.3 3.333	
4 Which year is MCMXCIX?	<u>1999</u>
5 Write as a fraction in its simplest form. a 15mm of 15cm b 25min of 1h	a <u>$\frac{1}{10}$</u> b <u>$\frac{5}{12}$</u>
6 Find the difference between 0.394 and 0.4.	<u>0.006</u>
7 Which of these numbers are multiples of both 5 and 8?	16 25 40 64 90 120 <u>40, 120</u>
8 $\frac{3}{8}$ of a sum of money is 45p. Find $\frac{1}{2}$ of the sum of money.	<u>60p</u>
9 Find to the nearest centimetre one seventh of $6\frac{1}{4}$ m.	<u>89cm</u>
10 What sum of money is 200% of £170?	<u>£340</u>
11 Find the cost of 2.5kg at 74p per 500g.	<u>£3.70</u>
12  The perimeter of this parallelogram is 72cm. Find the length of the sides AD and BC.	<u>11cm</u>

C	Answer
1 By how many is $(10^3 + 16)$ greater than $(10^2 + 16)$?	<u>900</u>
2 George's date of birth is 27 Nov. 04. How old will he be in years and months on 1 Sept. 2020?	<u>15yr 9mth</u>
3 Sophie received a gift of £16. She saved 90% of the money and spent the rest. a What percentage did she spend? b How much did she save?	a <u>10%</u> b <u>£14.40</u>
4  Each of the equal angles in this isosceles triangle is twice the size of the third angle. Find the size of a the third angle b the equal angles at the base.	a <u>36^\circ</u> b <u>72^\circ</u>
5 A line 10cm long is drawn to represent a distance of 3km. To what scale is the line drawn?	<u>1cm to 300m</u>
6 Potatoes £1.40 for a 3kg bag or 24p per $\frac{1}{2}$ kg How much money is saved by buying 6kg of potatoes in bags?	<u>8p</u>
7 A rectangular plot of ground measures 19.7m long and 13.4m wide. Round each measurement to the nearest metre and then find the approximate area of the plot.	<u>260m²</u>
8 Which of these shapes have two axes of symmetry?	<u>B, E</u>
	
9 There were three candidates A, B and C in an election. Of the total possible votes A polled $\frac{1}{4}$, B polled $\frac{1}{6}$ and C polled $\frac{1}{3}$. a Which candidate won the election? b What fraction of the electors did not vote?	a <u>C</u> b <u>$\frac{1}{4}$</u>
10 $x = 8 \times 4 + 4$ $y = 8 \times (4 + 4)$ Find the value of a x b y c $y - x$.	a <u>36</u> b <u>64</u> c <u>28</u>
11 The price of a pen was increased from 30p to 36p. Find the increase as a percentage of the original price.	<u>20%</u>
12 Find in millimetres the diameter of a circle that has the radius 7.7cm.	<u>154mm</u>

A	Answer
1 1.4 million + 0.3 million =	<u>1.7 million</u>
2 $1000 \times \square = 300$	<u>0.3</u>
3 a 5% of £30 =	<u>a £1.50</u>
b 40% of £50 =	<u>b £20</u>
4 $2.050\text{l} - \square \text{ml} = 1\frac{1}{2}\text{l}$	<u>550ml</u>
5 $2 + 5 \times 5 - 7 =$	<u>20</u>
6 $6 \times 9 \times 5 \times 4 =$	<u>1080</u>
7 $\frac{4.56\text{m}}{8} = \square \text{cm}$	<u>57cm</u>
8 a $0.65 = \square\% = \frac{\square}{20}$	<u>a 65% = $\frac{13}{20}$</u>
b $0.12 = \square\% = \frac{3}{\square}$	<u>b 12% = $\frac{3}{25}$</u>
9 $7\text{h} - 3\text{h } 28\text{min} = \square \text{h } \square \text{min}$	<u>3h 32min</u>
10 $1.34 + \square = 1.876$	<u>0.536</u>
11 $9.072 \times 7 =$	<u>63.504</u>
12 $£5.00 \div 6 = \square \text{p r } \square \text{p}$	<u>83p r 2p</u>

B	Answer								
1 Take the sum of $\frac{2}{3}$ and $\frac{5}{6}$ from 2.	<u>$\frac{1}{2}$</u>								
2 How many times is 600g contained in 4.8kg?	<u>8</u>								
3 <table style="display: inline-table; vertical-align: middle;"> <tr><td>£</td><td></td></tr> <tr><td>4 . 7 4</td><td>Find the missing sum of money.</td></tr> <tr><td>- <u> . . .</u></td><td></td></tr> <tr><td>1 . 9 0</td><td></td></tr> </table>	£		4 . 7 4	Find the missing sum of money.	- <u> . . .</u>		1 . 9 0		<u>£2.84</u>
£									
4 . 7 4	Find the missing sum of money.								
- <u> . . .</u>									
1 . 9 0									
4 How many days inclusive from 23 Nov. to 9 Dec?	<u>17</u>								
5 Find the reflex angle to an angle of 63°.	<u>297°</u>								
6 To the total of 850ml and 950ml add 1.6l. Give the answer in litres.	<u>3.4l</u>								
7 What percentage of									
a £400 is £20	<u>a 5%</u>								
b 1 tonne is 250kg?	<u>b 25%</u>								
8 Write the year 1066 using Roman numerals.	<u>MLXVI</u>								
9 40% of a sum of money is 60p. Find the whole amount.	<u>£1.50</u>								
10 Which of these decimal fractions equals $\frac{1}{8}$?									
0.8 0.15 0.25 0.125	<u>0.125</u>								
11 Divide £10.00 by 3. Give the answer to the nearest penny.	<u>£3.33</u>								
12 A piece of paper is 210mm by 30cm. Find its area in cm ² .	<u>630cm²</u>								

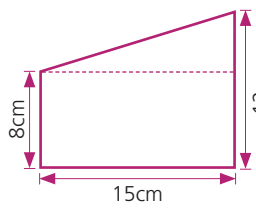
C	Answer
1 By how many is (3×10^3) less than five thousand?	<u>2000</u>
2 The mass of a 5p coin is 3.25g. What is the value of the 5ps in a bag if their mass is 0.325kg?	<u>£5</u>
3 Of 240 children in a school, 180 bring a packed lunch. Find the percentage of children who have school lunches.	<u>25%</u>
4 Find to the nearest kilometre the distance by road from Alton to Bigby.	<u>8km</u>

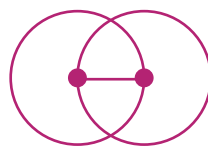


5 The mean temperature over four consecutive days was 17°C. For three of the days the temperatures were 16°, 14° and 18° respectively. What was the temperature on the fourth day?	<u>20°C</u>
6 Find the value of $7 - 3 \times 2 + 10$.	<u>11</u>
7 In this chart two of the prices, marked x and y, are missing. What are they?	<u>x 36p</u> <u>y 72p</u>

mass	100g	150g	200g	300g	400g
price	18p	27p	x	54p	y

8 Maisie saves £7.50 in five months. If she continues to save at the same rate, how much will she have saved in	
a 7 months	<u>a £10.50</u>
b 1 year?	<u>b £18</u>

9 	a What kind of triangle is added to the rectangle to make the shape?	<u>a right-angled</u>
	b Find the area of the shape.	<u>b 150cm²</u>

10 	The diameter of each circle is 15.8cm. What is the distance in millimetres between the two centres?	<u>79mm</u>
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11 Yan scored 19 out of 20 in a test. What is his score as a percentage?	<u>95%</u>
12 A hollow cube has sides measuring 20cm. If the cube is half filled with water, what is the mass of the water in kilograms?	<u>4kg</u>

Write the numbers 1 to 20 down the side of a piece of paper.
Write alongside these numbers the **answers only** to the following questions.
Work as quickly as you can. Time allowed – **10 minutes**.

- 1 Write in words the number which is equal to $(5 \times 10^3) + (7 \times 10) + 2$. _____ five thousand and seventy-two
 - 2 How many times is 1083 greater than 1.083? _____ 1000
 - 3 How many 5ps are given in exchange for the coins shown below? _____ 29 5ps
-
- 4 $8.15\text{l} - 800\text{ml}$. Write the answer in litres. _____ 7.35\text{l}
 - 5 $\frac{x}{9} = 7$. Find the value of x . _____ 63
 - 6 By how many degrees is the angle marked x in the parallelogram less than the angle marked y ? _____ 68^\circ
 - 7 The price of a game was increased from £20 to £25. What is the increase as a percentage of the original price? _____ 25%
 - 8 A line 8cm long represents a distance of 320m. The scale to which the line is drawn is 1mm to m. _____ 4m
 - 9 Write as a mixed number the difference between 3 and 0.25. _____ 2\frac{3}{4}
 - 10 $x = 10 \times 8 - 5$ $y = 10 \times (8 - 5)$ Find the value of a x b y c $x - y$. _____ a 75, b 30, c 45
 - 11

sweets	book	savings bank	
--------	------	--------------	--

 Hollie had £4.20. The diagram shows how she used it. How much money did she put into the savings bank? _____ £1.40
 - 12 The number of people living in a small town was 19097. In five years the population decreased by 10%. Find the decrease to the nearest whole number. _____ 1910
 - 13 The area of a triangle is 32.2cm^2 . Its height is 7cm. Find the length of the base. _____ 9.2cm
 - 14

	depart	arrive
A	10:20	13:55
B	11:25	14:15

 This timetable gives the times of two trains from London to Darlington. Which train is quickest and by how many minutes? _____ B by 45min
 - 15 A pack of eight cartons of juice costs £3.75. Find to the nearest penny the cost of one carton. _____ 47p
 - 16 Two of the angles in a quadrilateral are 89° , another angle is 91° .
a What is the size of the fourth angle? _____ 91^\circ
b Which three of these shapes could the quadrilateral be?
parallelogram rhombus rectangle trapezium _____ parallelogram, trapezium, rhombus
 - 17 The perimeter of a rectangular hall is 36m. The width measures one third of the length. Find the length of the hall. _____ 13.5m
 - 18 $\frac{5}{6}$ of a sum of money is £10.40. What is the whole amount? _____ £12.48
 - 19 A car travels at a speed of 45km/h for 1h. How far did it travel in 20min? _____ 15km
 - 20 Write in centimetres the diameter of a circle with a radius of 128mm. _____ 25.6cm

You will work through Progress Test 1 at **four** different times – once at the end of Section 1, then again after you have completed each of Section 2 Test 4, Test 8 and Test 11.

When you first complete the test:


a colour the first column to show the number of answers correct out of 20

b enter the date.

Each time you take the test, enter the result and the date in the marked columns.

	1st	2nd	3rd	4th
20				
19				
18				
17				
16				
15				
14				
13				
12				
11				
10				
9				
8				
7				
6				
5				
4				
3				
2				
1				
0				
date				

A **Answer**

- 1  Write in words the number shown on the abacus.

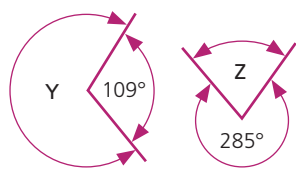
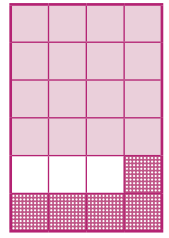
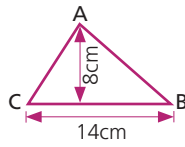
- 2 Add 1.0, 0.1 and 0.001. 1.101
- 3 3375mm = m 3.375m
- 4 × 10 = 498700 49870
- 5 $\frac{1}{2} \times \frac{1}{2} =$ $\frac{1}{4}$
- 6 8kg – 6.075kg = kg 1.925kg
- 7 6 × 5 × 9 = 270
- 8 $2\frac{1}{4}$ min = s 135s
- 9 $\frac{3}{5}$ of £45 = £ £27
- 10 $\frac{3}{12} + \frac{1}{6} =$ $\frac{5}{12}$
- 11 $3^3 - 2^3 =$ 19
- 12 Find 15% of £2.00. 30p

B **Answer**

- 1 1m costs £1.50. Find the cost of 10cm. 15p
- 2 Write $\frac{12}{16}$ in its simplest form. $\frac{3}{4}$
- 3 To the difference between £5.00 and £2.55 add six 2ps. £2.57
- 4 A square has a perimeter of 320mm. Find its area in cm². 64cm²
- 5 How many times can 0.25 be taken from 1? 4
- 6 5 miles ≈ 8km. About how many kilometres is 45 miles? 72km
- 7 When a watering can is $\frac{3}{4}$ full it holds 900ml. How much does it hold in litres when it is full? 1.2l
- 8 What percentage of £6 is £1.50? 25%
- 9 Find the volume in m³ of a room 5m long, 4m wide and 2.5m high. 50m³
- 10 What fraction in its simplest form is equal to 12.5%? $\frac{1}{8}$
- 11 How many times heavier is 7.5kg than 75g? 100
- 12 Write these fractions in order of size, the largest first.

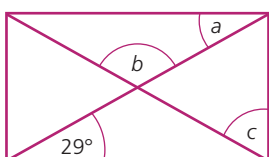
 $\frac{5}{6}$ $\frac{3}{4}$ $\frac{2}{3}$ $\frac{7}{12}$

C **Answer**

- 1 Six 30cm candles are placed end to end. How many millimetres short of 2m is their total length? 200mm
- 2 In which century did each of these years fall? Write the answers in digits.
 a 1676 a 17th
 b 1918 b 20th
- 3  Find
 a the reflex angle Y a 251°
 b the acute angle Z. b 75°
- 4 36758 Write this number and use a decimal point to make the value of the number
 a between 360 and 370 a 367.58
 b between 30 and 40. b 36.758
- 5 Which number when divided by 6 has $\frac{1}{3}$ as the answer? 2
- 6 Which of these numbers have 2, 3 and 4 as factors?
 12 17 18 24 27 31 36 12, 24, 36
- 7 Harry walks at an average speed of 6km/h. How many hours will he take to walk 15km? $2\frac{1}{2}$ h
- 8 A plan is drawn to a scale of 1mm to 10cm. Write the scale as a fraction. $\frac{1}{100}$
- 9  There are 24 small squares in the diagram. Find as a fraction in its simplest form the part which is
 a shaded a $\frac{2}{3}$
 b unshaded b $\frac{1}{8}$
 c patterned c $\frac{5}{24}$
- 10 Round each amount to the nearest £ and then find the approximate total.
 £5.75 £3.25 £2.99 £12
- 11  Find the area of
 a the triangle ABC a 56cm²
 b a triangle having the same base but half the height of ABC b 28cm²
- 12 346 × 18 = 6228
 Find a 346 × 0.18 a 62.28
 b 34.6 × 1.8. b 62.28

A	Answer
1 $4 \times y = 96$ Find the value of y .	24
2 $£3.78 + £2.55 =$	£6.33
3 $35\text{min} \times 5 =$ h min	2h 55min
4 $£\square + £2.37 = £6.00$	£3.63
5 1 tonne (t) = 1000kg $3080\text{kg} =$ t kg	3t 80kg
6 $2\frac{3}{8} - 1\frac{1}{4} =$	$\frac{1}{8}$
7 $4.804 =$ $\frac{\square}{1000}$	$\frac{4804}{1000}$
8 a $\frac{1}{6}$ of 156 =	a 26
b $\frac{1}{12}$ of 156 =	b 13
9 a 20p of £2.00 = %	a 10%
b 20p of £4.00 = %	b 5%
10 $4^3 + 4^2 =$	80
11 $5057\text{m} + \square\text{m} = 5.750\text{km}$	693m
12 $\frac{£3.50}{10} \times 3 =$	£1.05

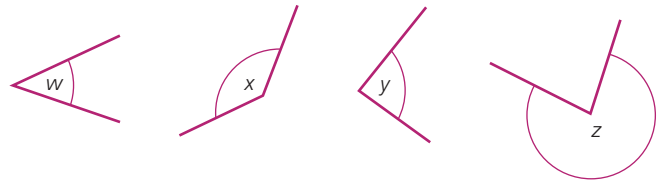
B	Answer
1 Write in digits, seven hundred thousand seven hundred.	700700
2 Increase the sum of 54p and 18p by £1.08.	£1.80
3 By how many millimetres is 2620mm less than 3m?	380mm
4 One ruler cost 18p. Find the cost of	a 10 b 30.
5 Write the next two numbers in this sequence. 50, 5, 0.5, , 	0.05 0.005
6 How many times is 300g contained in 9kg?	30
7 Write $\frac{3}{5}$ as a decimal fraction.	0.6
8 Increase	a £1.00 by 13% b £1.00 by 9%.
9 Find the mean of these numbers. 16 14 17 13	15
10 A rectangle is 4.5m long and 0.5m wide. Find	a the perimeter b the area.
Write the unit of measurement in each case.	a 10m b 2.25m ²
11 Find the difference between 2.75 million and 300000.	2450000



For the rectangle, find $\angle a$ $\angle b$ and $\angle c$.

$\angle a$	29°
$\angle b$	122°
$\angle c$	61°

C	Answer
1 Find the time taken in hours and minutes for a journey of 300km at an average speed of 40km/h.	7h 30min
2 Mr Khan was given a 10% reduction on a car costing €3000. How much did he pay for the car?	€2700
3 Six jugs each holding 850ml were filled from a cask containing 10l. Write in litres the quantity remaining.	4.9l
4 Estimate which of these angles is	a 87° b 135° c 278° d 45° .



5 In a group of 32 children, 24 could swim. What percentage of the children could not swim?	25%
6 Find in millimetres	a the total of the lengths AB and AC b the difference in length between AB and AC.
7 1 mile \approx 1.6km. About how many kilometres is 20 miles?	32km
8 On parents' evening, 4 out of every 5 parents who attended came by car. 100 parents attended.	a How many came by car? b What fraction did not?
9 Find the length of the rectangle in metres.	5m
10 Louise works from 6.45 a.m. to 10.15 a.m. and from 3.15 p.m. to 6.45 p.m. How many hours is that each day?	7h
11 The volume of the cuboid is 150m ³ . Find its height in metres.	7.5m

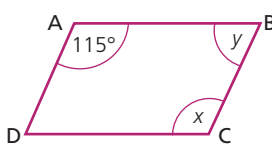
12 A car travelled 50 106km in three years. Find to the nearest 1000km the mean distance travelled per year.	17 000km
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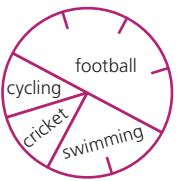
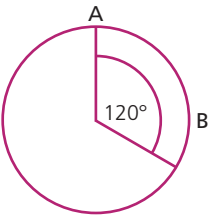
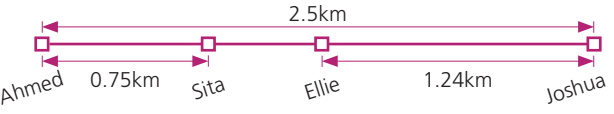
A	Answer
1 $£0.07 + £7.00 + £0.70 =$	<u>£7.77</u>
2 $(7 \times 10^3) + (5 \times 10^2) + (3 \times 10^1) =$	<u>7530</u>
3 $\square p \times 10 = £1.60 =$	<u>16p</u>
4 $5 + 7 \times 3 - 2 =$	<u>24</u>
5 $1.36 \div 8 =$	<u>0.17</u>
6 $(4 \times 96) + (6 \times 96) =$	<u>960</u>
7 $360^\circ - (145^\circ + 55^\circ) =$	<u>160^\circ</u>
8 $3\text{ l } 250\text{ ml} - \frac{3}{4}\text{ l} = \square\text{ l}$	<u>2.5\text{ l}</u>
9 $3.593 + 0.407 =$	<u>4.0</u>
10 80% of 400 =	<u>320</u>
11 $\frac{2}{3} + \frac{1}{6} =$	<u>$\frac{5}{6}$</u>
12 Subtract 12 from 7.	<u>-5</u>

B	Answer
1 What number is one more than 99 999?	<u>100 000</u>
2 By how many seconds is 70s less than $1\frac{1}{4}$ min?	<u>5s</u>
3 700ml cost £0.91. Find the cost per litre.	<u>£1.30</u>
4 The length of a rectangle is 15cm and its perimeter is 46cm. Find a the width a <u>8cm</u> b the area. b <u>120cm²</u>	
5 Write 1mm of 2m as a fraction. <u>$\frac{1}{2000}$</u>	
6 Divide the total of £1.17 and £0.28 by 5. <u>£0.29</u>	
7 $4 \times y = 4y$. Find the value of y when $4y = 14$. <u>$\frac{1}{32}$</u>	
8 Approximate a 9493g to the nearest kilogram a <u>9kg</u> b 305 426 to the nearest 10 000. b <u>310 000</u>	
9 Write as a decimal the sum of 5, $\frac{3}{10}$ and $\frac{84}{100}$. <u>6.14</u>	
10 What percentage is 6cm of 2m? <u>3%</u>	
11 Write the next two numbers in this sequence. $\frac{1}{10}, \frac{1}{5}, \frac{3}{10}, \frac{2}{5}, \frac{1}{2}, \square, \square$ <u>$\frac{3}{5}$ $\frac{7}{10}$</u>	
12 Write 125ml to 1l as a a fraction in its simplest form a <u>$\frac{1}{8}$</u> b a decimal fraction. b <u>0.125</u>	

C	Answer									
1 The price of a 32p packet of sweets is increased by 25%. What is the new price? <u>40p</u>										
2 <div style="border: 1px solid #800040; padding: 5px; display: inline-block; margin-right: 10px;"> Funfair admission: £4.20 children: half price </div> Find the total cost for two adults and two children. <u>£12.60</u>										
3 The length of a garage is 5m. The overall length of a car is 4445mm. By how many millimetres is the garage longer than the car? <u>555mm</u>										
4 Claire is employed for 36 hours from Monday to Friday (inclusive). Find in hours and minutes the mean time she works each day. <u>7h 12min</u>										
5 From a gift of £10, Ahmed received £3.70. His three friends shared the remainder equally. How much did each friend receive? <u>£2.10</u>										
6 A packet of weed-killer will treat 100m ² of lawn. How many packets are needed to treat a square lawn with 20m sides? <u>4</u>										
7 <table border="1" style="border-collapse: collapse; margin-right: 10px;"> <tr> <td style="padding: 2px;">triangle x</td> <td style="padding: 2px;">96° 42°</td> <td style="padding: 2px;">□°</td> </tr> <tr> <td style="padding: 2px;">triangle y</td> <td style="padding: 2px;">60° 60°</td> <td style="padding: 2px;">□°</td> </tr> <tr> <td style="padding: 2px;">triangle z</td> <td style="padding: 2px;">90° 57°</td> <td style="padding: 2px;">□°</td> </tr> </table> Two of the angles in each of the triangles x, y and z are given. x <u>42°</u> y <u>60°</u> Find the third angle for each triangle. z <u>33°</u>	triangle x	96° 42°	□°	triangle y	60° 60°	□°	triangle z	90° 57°	□°	
triangle x	96° 42°	□°								
triangle y	60° 60°	□°								
triangle z	90° 57°	□°								
8 A map is drawn to a scale of 1cm to 1km. Find the distance in kilometres represented by a line 42mm long. <u>4.2km</u>										
9 $F = \{16, 4, \square, 1, 64, 2, \square\}$ $F =$ the set of factors of 64. Find the missing factors. <u>8 32</u>										
10 Which triangle, A or B, has the greater area and by how many cm ² ? <u>A by 3cm²</u>										
11 1l of water has the same volume as 1000cm ³ . What are the volumes in cm ³ of a 200ml a <u>200cm³</u> b 1.7l? b <u>1700cm³</u>										
12 A map is drawn to a scale of 1cm to 1km. Express this scale a as a fraction a <u>$\frac{1}{100000}$</u> b as a ratio. b <u>1:100 000</u>										

A	Answer
1 $(4 \times 9^2) =$	<u>324</u>
2 $0.9 - 0.09 =$	<u>0.81</u>
3 $15p \times 4 = \text{£} \square$	<u>£0.60</u>
4 $3694 \div 5 = \square \text{ r } \square$	<u>738 r 4</u>
5 a $0.12 = \square \%$	a <u>12%</u>
b $0.125 = \square \%$	b <u>12.5%</u>
6 $2\text{l} - \square \text{ml} = 1.260\text{l}$	<u>740ml</u>
7 $\frac{1}{8}$ of $360^\circ =$	<u>45°</u>
8 $1\text{m } 90\text{mm} = \square \text{m}$	<u>1.090m</u>
9 three 50ps + \square 5ps = $\text{£}3.00 - \text{£}1.25$	<u>5 5ps</u>
10 11.33 a.m. to 1.27 p.m. = \square h \square min	<u>1h 54min</u>
11 $0.3 \times 0.5 =$	<u>0.15</u>
12 Find a $\frac{1}{2}$ of $\frac{2}{3}$	a <u>$\frac{1}{3}$</u>
b $\frac{7}{8}$ of 4.	b <u>$3\frac{1}{2}$</u>

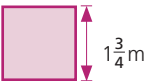
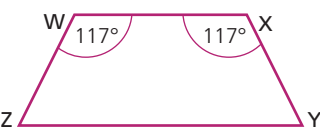
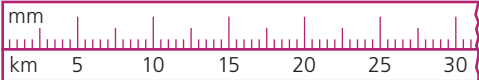
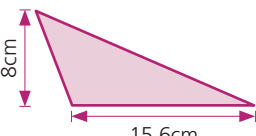
B	Answer
1 How much is left when $\text{£}1.67$ is subtracted from $\text{£}2.45$?	<u>£0.78</u>
2 Write as a decimal fraction.	
a $\frac{1}{4}$	a <u>0.25</u>
b $\frac{1}{8}$	b <u>0.125</u>
3 Write the volume in cm^3 of a bucket which holds 2.250L.	<u>2250cm^3</u>
4 Find the difference between 100% of $\text{£}5.00$ and 1% of $\text{£}5.00$.	<u>£4.95</u>
5 What number is one thousand less than 800000?	<u>799000</u>
6 10 lollies cost $\text{£}4.50$. Find the cost of	
a one	a <u>45p</u>
b seven.	b <u>£3.15</u>
7 How many times can 300ml be taken from 6l?	<u>20</u>
8 Which two consecutive numbers have a product of 72?	<u>8 9</u>
9 How many days inclusive from 14 December to 17 January?	<u>35</u>
10 Divide $\text{£}5.00$ by 9 to the nearest penny.	<u>56p</u>
11  ABCD is a parallelogram. Find in degrees	
$\angle x$	<u>115°</u>
and $\angle y$.	<u>65°</u>
12 20% of a sum of money is 85p. What is the whole amount?	<u>£4.25</u>

C	Answer												
1 A jug holds 750ml. How many ml does it hold when it is $\frac{2}{3}$ full?	<u>500ml</u>												
2 The interior angles of triangles A, B and C are given. Name each of these triangles by its sides.													
<table border="1" data-bbox="869 380 1181 504"> <tr> <td>triangle A</td> <td>60°</td> <td>60°</td> <td>60°</td> </tr> <tr> <td>triangle B</td> <td>80°</td> <td>80°</td> <td>20°</td> </tr> <tr> <td>triangle C</td> <td>30°</td> <td>60°</td> <td>90°</td> </tr> </table>	triangle A	60°	60°	60°	triangle B	80°	80°	20°	triangle C	30°	60°	90°	A <u>equilateral</u>
triangle A	60°	60°	60°										
triangle B	80°	80°	20°										
triangle C	30°	60°	90°										
	B <u>isosceles</u>												
	C <u>scalene</u>												
3 Car parking costs $\text{\$}4.00$ per hour. How much does it cost to park for 3h 15min?	<u>$\text{\\$}13.00$</u>												
4 Round each of these numbers to the nearest whole number and then find the approximate total.													
<table border="1" data-bbox="869 728 1173 772"> <tr> <td>5.109</td> <td>6.5</td> <td>4.49</td> <td>2.73</td> </tr> </table>	5.109	6.5	4.49	2.73	<u>19</u>								
5.109	6.5	4.49	2.73										
5  The diagram shows how the children voted for their favourite sport. What percentage of the children voted for													
a swimming	a <u>25%</u>												
b cycling?	b <u>12.5%</u>												
6 If 200 children voted, how many more voted for football than for cricket?	<u>75</u>												
7  a What fraction of the circumference of the circle is the arc AB?	a <u>$\frac{1}{3}$</u>												
b If the angle at the centre were 240° , what fraction of the circumference would be its arc?	b <u>$\frac{2}{3}$</u>												
8 Eight lengths each measuring 2m 40cm are cut from a 20m roll. What length in cm remains?	<u>80cm</u>												
9 Find the product of one-half and two-thirds and write the fraction in its simplest form.	<u>$\frac{1}{3}$</u>												
10 In a freestyle swimming competition, Kai swam 200m in 1min 54.3s. How many seconds less than 2min was his time?	<u>5.7s</u>												
11 The diagram shows the distances between four friends' homes. How many metres is it from Sita's to Ellie's?	<u>510m</u>												
													
12 The population of a town of 0.5 million fell by 50000. What was the percentage fall in population?	<u>10%</u>												

A	Answer
1 36mm + 24mm + 54mm = cm	11.4cm
2 5l - (480ml × 5) = l	2.6l
3 g × 100 = 6.5kg	65g
4 1 mile ≈ 1.6km miles ≈ 48km	30 miles
5 2.750l ÷ 2 =	1.375l
6 60% of £2 = £ 	£1.20
7 0.97 × 3 =	2.91
8 3h 50min × 6 = h min	23h 0min
9 $\frac{1}{2} \times \frac{1}{4} =$	$\frac{1}{8}$
10 9 ³ - 9 =	720
11 £30 ÷ 20 =	£1.50
12 £0.50 × 54 =	£27.00

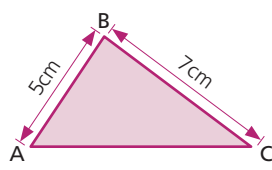
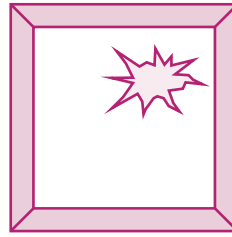
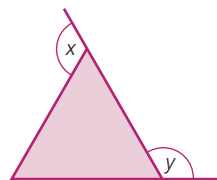
B	Answer
1 Write in words the number 40400.	forty thousand four hundred
2 Which of these is a a square number b a prime number?	a 36 b 37
34 35 36 37 38 39	
3 Divide £28 in the ratio 4:3.	£16 £12
4 Six toffees cost 90p. Find the cost of five toffees.	75p
5 Approximate a 0.830km to the nearest 100m b 4.080l to the nearest $\frac{1}{2}$ l.	a 800m b 4l
6 a How many 8cm lengths can be cut from a 5m length? b How many centimetres are left over?	a 62 b 4cm
7 What fraction of 10 is $\frac{1}{4}$?	$\frac{1}{8}$
8 Write as a decimal fraction. a 19% b 12 $\frac{1}{2}$ %	a 0.19 b 0.125
9 298 seconds = min s	4min 58s
10 6 + x + 0.029 = 6.03. Find x.	0.001
11 What number must be added to 0.37 to make 4.57?	4.2
12 Find the missing mass in grams.	880g

5.3 7 0 kg	
- kg	
4.4 9 0 kg	

C	Answer																														
1 20p is saved each week. How long will it take to save £2.60?	13wk																														
2  Find in metres the perimeter of this square.	7m																														
3 Which of these fractions is equal to a 12 $\frac{1}{2}$ % b 33 $\frac{1}{3}$ %?	a $\frac{1}{8}$ b $\frac{1}{3}$																														
$\frac{1}{2}$ $\frac{1}{8}$ $\frac{1}{4}$ $\frac{1}{3}$ $\frac{1}{6}$																															
4 Find the difference between 30 × 4p and 30 times 6p.	60p																														
5 WXYZ is a trapezium. Find in degrees																															
	a ∠ XYZ a 63° b ∠ YZW. b 63°																														
6 Of the 300 people at a theme park, 99% went on the rollercoaster. How many people was that?	297																														
7 Tom was allowed an average of 50p per day spending money for four days. Find how much he had to spend on the fourth day.	30p																														
<table border="1" style="border-collapse: collapse; text-align: center;"> <tr> <td>day</td> <td>1st</td> <td>2nd</td> <td>3rd</td> <td>4th</td> </tr> <tr> <td>spent</td> <td>70p</td> <td>40p</td> <td>60p</td> <td></td> </tr> </table>	day	1st	2nd	3rd	4th	spent	70p	40p	60p																						
day	1st	2nd	3rd	4th																											
spent	70p	40p	60p																												
8 From Aberdeen to Leicester by road is approximately 700km. Find to the nearest hour the time taken by a truck if its average speed is 60km/h.	12h																														
9 This scale is taken from a map. Find the distance in kilometres represented by a line on the map measuring 3.5cm.	17.5km																														
																															
10 An equilateral triangle has a perimeter of 240mm. Find in centimetres a the length of one side b the length of one side of a regular hexagon of the same perimeter.	a 8cm b 4cm																														
11 From this calendar find a the number of Fridays in the month b the date of the third Sunday in the month.	a 4 b 20th																														
<table border="1" style="border-collapse: collapse; text-align: center;"> <tr> <th colspan="6">March</th> </tr> <tr> <td>Mon</td> <td></td> <td>7</td> <td>14</td> <td>21</td> <td>28</td> </tr> <tr> <td>Tues</td> <td>1</td> <td>8</td> <td>15</td> <td>22</td> <td>29</td> </tr> <tr> <td>Wed</td> <td>2</td> <td>9</td> <td>16</td> <td>23</td> <td>30</td> </tr> <tr> <td>Thurs</td> <td>3</td> <td>10</td> <td>17</td> <td>24</td> <td>31</td> </tr> </table>	March						Mon		7	14	21	28	Tues	1	8	15	22	29	Wed	2	9	16	23	30	Thurs	3	10	17	24	31	
March																															
Mon		7	14	21	28																										
Tues	1	8	15	22	29																										
Wed	2	9	16	23	30																										
Thurs	3	10	17	24	31																										
12  Use the formula $A = \frac{bh}{2}$ to find the area of the triangle.	62.4cm ²																														

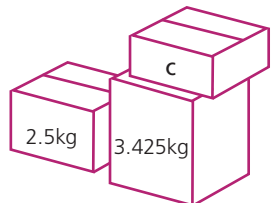
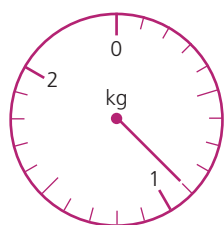
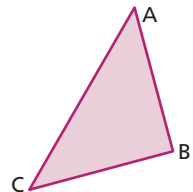
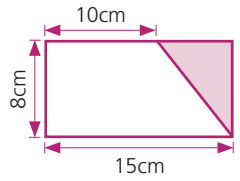
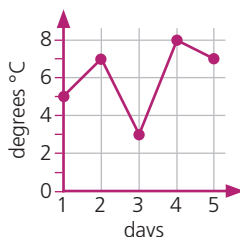
A	Answer
1 $470 - 383 =$	<u>87</u>
2 $250\text{g} \times 20 =$ \square kg	<u>5kg</u>
3 $765 \div 25 =$ \square r \square	<u>30 r 15</u>
4 $2\frac{5}{8} + \frac{3}{4} =$	<u>$3\frac{3}{8}$</u>
5 $1 \div 0.2 =$	<u>5</u>
6 $4\text{m} - \square \text{mm} = 3.180\text{m}$	<u>820mm</u>
7 $30 \times 1.6 =$	<u>48</u>
8 From 7.19 a.m. to 8.15 a.m. = \square min	<u>56min</u>
9 $175\text{ml} \times 4 = 1\text{l} - \square \text{ml}$	<u>300ml</u>
10 $36 - 9 \div 3 =$	<u>33</u>
11 a 8.5% of £100	<u>a £8.50</u>
b $12\frac{1}{2}\%$ of £10	<u>b £1.25</u>
12 $£2.63 \times 4 =$	<u>£10.52</u>

B	Answer
1 Add together the largest and the smallest of these numbers. 0.099 0.9 0.909 0.09	<u>0.999</u>
2 What percentage is a 9 of 18	<u>a 50%</u>
b 18 of 9?	<u>b 200%</u>
3 Write in digits the number which is ten thousand more than a million.	<u>1010000</u>
4 $£2.57$ plus $£1.36$ minus 24p = $£\square$	<u>£3.69</u>
5 Write 20 thirds as a an improper fraction	<u>a $\frac{20}{3}$</u>
b a mixed fraction.	<u>b $6\frac{2}{3}$</u>
6 Find the area of a parallelogram with a base measuring 17cm and height of 5cm.	<u>85cm²</u>
7 Find $\frac{1}{9}$ of 70. Write the answer to the nearest whole number.	<u>8</u>
8 50g cost 65p. Find the cost of $\frac{1}{4}$ kg.	<u>£3.25</u>
9 How many 650g packets can be made from 65kg?	<u>100</u>
10 Write as a decimal fraction. a $\frac{9}{50}$ b $\frac{3}{20}$ c $\frac{3}{25}$	<u>a 0.18 b 0.15 c 0.12</u>
11 Find the difference in grams between 1% of 19kg and 1% of 20kg.	<u>10g</u>
12 Increase £2.00 by 16%.	<u>£2.32</u>

C	Answer						
1 A television licence costs £150 per year. How much is this per month?	<u>£12.50</u>						
2  ABC is a right-angled triangle. Find its area.	<u>17.5cm²</u>						
3 By how much is the product of $\frac{2}{3}$ and 3 less than the sum of $\frac{2}{3}$ and 3?	<u>$1\frac{2}{3}$</u>						
4 A $2\frac{1}{2}$ l container is $\frac{7}{10}$ full. What decimal fraction of 1l is required to fill it?	<u>0.75l</u>						
5 A plan is drawn to the scale of 1mm to 50cm. What fraction represents the scale?	<u>$\frac{1}{500}$</u>						
6 <table border="1" data-bbox="861 694 1117 772"> <tr> <td>Broton</td> <td>Cant</td> <td>Witton</td> </tr> <tr> <td>19:17</td> <td>21:14</td> <td>23:56</td> </tr> </table> From this bus timetable find the time taken from a Broton to Cant	Broton	Cant	Witton	19:17	21:14	23:56	<u>a 1h 57min</u>
Broton	Cant	Witton					
19:17	21:14	23:56					
b Cant to Witton	<u>b 2h 42min</u>						
c Broton to Witton.	<u>c 4h 39min</u>						
7  A new pane of glass is to be fitted into this square window. a In how many different ways will it fit without the glass being turned over?	<u>a 4</u>						
b How many lines of symmetry has a square?	<u>b 4</u>						
8 Find the missing numerators x, y and z in this set of equivalent fractions. $\{\frac{3}{5}, \frac{6}{10}, \frac{x}{15}, \frac{12}{20}, \frac{y}{25}, \frac{z}{30}\}$	<u>x 9</u> <u>y 15</u> <u>z 18</u>						
9  The triangle is equilateral. Find in degrees the measurement of $\angle x$ and $\angle y$.	<u>$\angle x$ 120°</u> <u>$\angle y$ 120°</u>						
10 Write the value of each: a $16 - 10 \div 2 + 1 =$	<u>a 12</u>						
b $(16 - 10) \div (2 + 1) =$	<u>b 2</u>						
c $(16 - 10) \div 2 + 1 =$	<u>c 4</u>						
11 The price of $\frac{1}{2}$ kg of carrots was increased from 30p to 36p. Find the increase as a percentage of the original price.	<u>20%</u>						
12 Round the sum of money to the nearest £ and then find an approximate answer. a $£19.87 \times 19$	<u>a £380</u>						
b $£126.24 \div 9$	<u>b £14</u>						

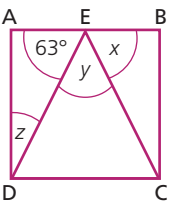
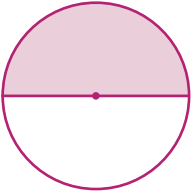
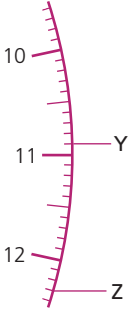
A	Answer
1 $5.384 + 4.16 =$	<u>9.544</u>
2 $4\text{km} - 272\text{m} =$ km	<u>3.728km</u>
3 $£30 \times 27 =$	<u>£810</u>
4 $\frac{£5.18}{6} =$ p r p	<u>86p r 2p</u>
5 1.5 million = thousands	<u>1500 thousands</u>
6 $(6 \times 10^5) + (1 \times 10^4) + (7 \times 10^2) + (4 \times 1) =$	<u>610704</u>
7 $0.75\text{l} =$ cm^3	<u>750cm^3</u>
8 $3 \times (5 + 1) - 10 \div 2 =$	<u>13</u>
9 $\frac{1}{3} \times \frac{1}{3} =$	<u>$\frac{1}{9}$</u>
10 Find $\frac{3}{8}$ of £36.	<u>£13.50</u>
11 $\frac{48\text{mm} + 72\text{mm}}{4} =$ cm	<u>3cm</u>
12 a 25% of 1.28l = ml	a <u>320ml</u>
b 75% of 1.28kg = g	b <u>960g</u>

B	Answer
1 Divide 45kg in the ratio 7:8.	<u>21kg 24kg</u>
2 Find the product of 10 and 0.002.	<u>0.02</u>
3 One article costs 21p. Find the cost of a 10 b 50.	a <u>£2.10</u> b <u>£10.50</u>
4 1 mile \approx 1.6km. About how many miles is 64km?	<u>40 miles</u>
5 a Increase £2.56 by 100%. b Decrease £2.40 by 50%.	a <u>£5.12</u> b <u>£1.20</u>
6 By how many grams is twice 2.175kg less than 5kg?	<u>650g</u>
7 How many seconds in a $\frac{1}{3}$ min b 0.25min?	a <u>20s</u> b <u>15s</u>
8 £5.60 is shared equally among eight children. Find one share.	<u>70p</u>
9 Change to percentages. a 0.13 b 0.35	a <u>13%</u> b <u>35%</u>
10 The area of a square card is 1m^2 . Find in centimetres the length of one side.	<u>100cm</u>
11 0.75 of a quantity has a mass of 3.36kg. Find the mass of 0.5 of the quantity.	<u>2.24kg</u>
12 Find the sum of (4×0.7) and (0.7×6) .	<u>7</u>

C	Answer
1 A book costs £2.40. In a sale it is to be sold at 75% of this price. How much will it be sold for?	<u>£1.80</u>
2  The total mass of the three parcels is 7kg. Find in kilograms the mass of parcel C.	<u>1.075kg</u>
3 Ali earns \$5.50 per hour. What is his wage for a 30-hour week?	<u>\$165</u>
4  The scale reading shows the mass of 20 tomatoes. Find the average mass of one tomato.	<u>45g</u>
5 Find the change from £10 after spending £3.60, £2.50 and 99p.	<u>£2.91</u>
6  The right-angled triangle is an isosceles triangle. Find in degrees a $\angle CAB$ b $\angle BCA$.	a <u>45°</u> b <u>45°</u>
7 A packet of peas has a mass of 375g. Find in kilograms the mass of six packets.	<u>2.25kg</u>
8  The shaded part is cut from this rectangular card. Find the area of the part that is cut off.	<u>20cm^2</u>
9 Write the next two numbers in this sequence. 24, 17, 10, 3, , 	<u>-4 -11</u>
10 A measurement of 38mm on a plan represents a distance of 38m. What would a 3cm line on the plan represent?	<u>30m</u>
11  The graph shows the temperature for five days. Find the mean daily temperature.	<u>6°C</u>
12 Which two of these fractions together equal a $\frac{1}{2}$ b $\frac{3}{4}$?	a <u>$\frac{1}{5}$ and $\frac{3}{10}$</u> b <u>$\frac{2}{3}$ and $\frac{1}{12}$</u>

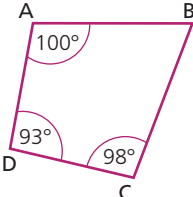

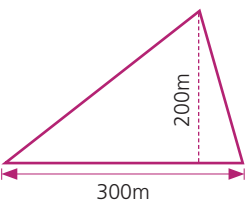

- | A | Answer |
|--|---------------|
| 1 $79 + 87 + \square = 300$ | 134 |
| 2 $10^6 = 10 \times 10 \times 10 \times 10 \times 10 \times 10 =$ | 1 000 000 |
| 3 $3\text{h } 20\text{min} - 1\text{h } 55\text{min} = \square \text{ h } \square \text{ min}$ | 1h 25min |
| 4 $6\text{ l } 515\text{ml} = \square \text{ ml}$ | 6515ml |
| 5 $\text{£}10.10 \times 10 =$ | £101.00 |
| 6 $0.75\text{m} + 350\text{mm} + 400\text{mm} = \square \text{ m}$ | 1.5m |
| 7 $9.18 + \square \text{ hundredths} = 10$ | 82 hundredths |
| 8 $36 \times 6\text{p} = \text{£} \square$ | £2.16 |
| 9 6% of 1kg = $\square \text{ g}$ | 60g |
| 10 $10^3 - 87 =$ | 913 |
| 11 $7\text{kg} \div 8 = \square \text{ g}$ | 875g |
| 12 $y \div 5 = \frac{2}{5}$. Find the value of y . | 2 |

- | B | Answer |
|--|--------------------------|
| 1 Write in digits the number one hundred and eleven thousand and one. | 111 001 |
| 2 How much less than 1 tonne is 860kg? | 140kg |
| 3 How many £s are equal in value to 10 000p? | £100 |
| 4 Which three consecutive numbers when added together equal 21? | 6 7 8 |
| 5 Find a 1% of £75.00
b 11% of £75.00. | a 75p
b £8.25 |
| 6 20 cost £8. Find the cost of 15. | £6 |
| 7 Write 300ml of 0.5l as
a a fraction in its simplest form
b a percentage. | a $\frac{3}{5}$
b 60% |
| 8 When $y = 2$, $6y = w - 8$. Find the value of w . | 20 |
| 9 How many 400g packs can be filled from 10kg? | 25 |
| 10 Write as a decimal. a $\frac{3}{4}$
b $\frac{7}{8}$ | a 0.75
b 0.875 |
| 11 Write the numbers between 0 and 40 of which both 3 and 4 are factors. | 12, 24, 36 |
| 12 The length of a rectangle is twice its width. The perimeter is 54cm. Find
a the length
b the width. | a 18cm
b 9cm |

- | C | Answer |
|--|--|
| 1 5% of a 4m roll of ribbon was used. How many centimetres was that? | 20cm |
| 2 By how much is the product of $\frac{1}{2}$ and $\frac{1}{4}$ less than the sum of $\frac{1}{2}$ and $\frac{1}{4}$? | $\frac{5}{8}$ |
| 3 Four hamsters together have a mass of 200g. How many hamsters together have a mass of $2\frac{1}{2}$ kg? | 50 |
| 4 Find the nearest whole number.
a $\frac{51}{4}$
b $97 \div 8$
c $156.6 \div 6$ | a 13
b 12
c 26 |
| 5  ABCD is a square. E is the midpoint of the side AB. Find in degrees the size of each of the angles x , y and z . | $\angle x$ 63°
$\angle y$ 54°
$\angle z$ 27° |
| 6 £3.52 was received in change from £10 after buying six plants. Find the average cost of a plant. | £1.08 |
| 7 A car travels 200km in 2h 30min. Find its average speed in km/h. | 80km/h |
| 8  The circumference of this circle is 22cm and the radius is 3.5cm. Find the perimeter of the semicircle. | 18cm |
| 9 Find the cost of 2.25kg at £10 per $\frac{1}{2}$ kg. | £45 |
| 10 How many cubes with sides measuring 10cm each fit into a cube with sides of 1m? | 1000 |
| 11  This is part of the dial of a stopwatch which measures to one-tenth of a second.
a Write in seconds the reading at Y
b Write in seconds the difference between the readings at Y and Z. | a Y 10.9s
Z 12.3s
b 1.4s |
| 12 In 4 weeks Jessica travelled 530km, 470km, 640km and 360km. What was the average distance she travelled per week? | 500km |

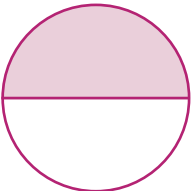
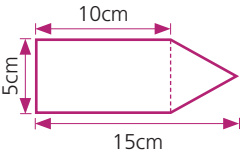

A	Answer
1 $700\,000 + \square + 2\,000 + 50 = 712\,050$	<u>10 000</u>
2 $8.5 - 7.05 =$	<u>1.45</u>
3 $2\frac{3}{4} \times 100 =$	<u>275</u>
4 $98^\circ + 134^\circ + \square^\circ = 360^\circ$	<u>128^\circ</u>
5 $\pounds \square \times 4 = \pounds 15.24$	<u>£3.81</u>
6 $3.079 + \square$ thousandths = 4	<u>921</u> thousandths
7 $(\pounds 1.08 \times 10) + (\pounds 0.07 \times 6) =$	<u>£11.22</u>
8 $\frac{78}{x} = 3$. Find the value of x .	<u>26</u>
9 $34.86 = 10 \times \square$	<u>3.486</u>
10 $\frac{4}{5} \times \frac{1}{2} =$	<u>$\frac{2}{5}$</u>
11 $1160g \times 5 = \square kg$	<u>5.8kg</u>
12 From 06.12.12 to 18.01.13 inclusive = \square days	<u>44d</u>

B	Answer
1 Write 10 532 thousandths as a decimal.	<u>10.532</u>
2 How much less than 10 tonnes is 9t 470kg?	<u>530kg</u>
3 55 miles \approx \square km	<u>88km</u>
4 Find in $^\circ C$ the difference between	
a $6^\circ C$ and $-3^\circ C$	a <u>$9^\circ C$</u>
b $-5^\circ C$ and $4^\circ C$.	b <u>$9^\circ C$</u>
5 Divide 117 by 8. Write the answer as a mixed number.	<u>$14\frac{5}{8}$</u>
6 Find the total of $(4 \times 16 \times 0)$ and $(4 \times 16 \times 1)$.	<u>64</u>
7 How much is 5% of $\pounds 250$?	<u>£12.50</u>
8 The area of a rectangle is $1m^2$. The breadth is 50cm. Find the length in metres.	<u>2m</u>
9 10 plums cost $\pounds 2.70$. Find the cost of three.	<u>81p</u>
10 Write 12kg of 80kg	
a as a fraction in its simplest form	a <u>$\frac{3}{20}$</u>
b as a percentage.	b <u>15%</u>
11 How many kilometres and metres are equal to 0.75 of 6km?	<u>4km 500m</u>
12 Find in kilograms the mean mass.	
2.1kg 0.75kg 2.25kg 4.9kg	<u>2.5kg</u>

C	Answer						
1  ABCD is a quadrilateral. Find $\angle ABC$.	<u>69°</u>						
2 How many 40cm lengths can be cut from a 10m roll of tape?	<u>25</u>						
3 Using a scale of 1mm to 0.5m, what length of line would represent 3m?	<u>6mm</u>						
4  The correct time is 12.05 a.m.	Y <u>18min</u> <u>fast</u> Z <u>21min</u> <u>slow</u>						
How many minutes fast or slow is each of the 24-hour clocks?							
5 600 sheets of paper are used from five packs each holding 480 sheets. How many sheets are left?	<u>1800</u>						
6  The diagram is a plan of a field. Find the area of the field in m^2 .	<u>30 000m²</u>						
7 $P = \{7, x, y, 17, z, 23\}$ $P =$ the set of prime numbers between 6 and 24. Find the value of x , y and z .	x <u>11</u> y <u>13</u> z <u>19</u>						
8 There are 65l of diesel in a tractor tank. If the fuel is used at the rate of 15l per hour, for how many hours and minutes can the tractor be used?	<u>4h 20min</u>						
9 The area of the two given rectangles is $24cm^2$. Find the length and breadth of two other rectangles X and Y each of which has an area of $24cm^2$ and whose sides are whole centimetres.	X <u>6cm</u> <u>4cm</u> Y <u>8cm</u> <u>3cm</u>						
<table border="1" style="display: inline-table; margin: 5px;"> <tr><td>length</td><td>24cm</td><td>12cm</td></tr> <tr><td>breadth</td><td>1cm</td><td>2cm</td></tr> </table>	length	24cm	12cm	breadth	1cm	2cm	
length	24cm	12cm					
breadth	1cm	2cm					
10 A roll of material 2.5m long is cut into three equal pieces. Find to the nearest centimetre the length of one piece.	<u>83cm</u>						
11  The cylinder holds 2l.							
a How many millilitres of water are there in the cylinder?	a <u>1200ml</u>						
b How many more millilitres are required to fill it?	b <u>800ml</u>						
12 Find the change from $\pounds 10$ after spending $\pounds 2.46$, $\pounds 3.77$ and $\pounds 1.54$.	<u>£2.23</u>						

A	Answer
1 \square miles \approx 56km	<u>35 miles</u>
2 $100 \times \square = 59$	<u>0.59</u>
3 $\frac{\pounds 48}{100} = \square p$	<u>48p</u>
4 $2\frac{5}{8} + \frac{3}{10} + 1\frac{3}{8} =$	<u>$4\frac{3}{10}$</u>
5 $9\text{kg} = 7.355\text{kg} + \square \text{kg}$	<u>1.645kg</u>
6 $0.04 + 0.7 + 0.009 = \square$ thousandths	<u>749 thousandths</u>
7 $\pounds 0.09 \times 12 =$	<u>$\pounds 1.08$</u>
8 a 7% of $\pounds 13.00 =$ b 19% of $\pounds 8.00 =$	a <u>91p</u> b <u>$\pounds 1.52$</u>
9 $557\text{ml} \times 6 = \square \text{l}$	<u>3.342l</u>
10 $\frac{1\text{kg } 350\text{g} \times 2}{10} = \square \text{g}$	<u>270g</u>
11 $\pounds 5.00 - (\pounds 2.46 + \pounds 1.59) = \square p$	<u>95p</u>
12 $\frac{3}{5} \times \frac{2}{3} =$	<u>$\frac{2}{5}$</u>

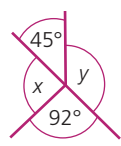
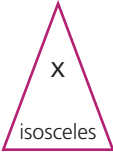
B	Answer
1 30 cookies cost $\pounds 2.40$. Find the cost of one.	<u>8p</u>
x y 2 53.057 How many times smaller is the 5 marked y than the 5 marked x ?	<u>1000</u>
3 From the sum of $\pounds 4.65$ and $\pounds 3.35$ subtract $\pounds 5.50$.	<u>$\pounds 2.50$</u>
4 Find the difference in centimetres between 153mm and 6.6cm.	<u>8.7cm</u>
5 Approximate a 15cm 7mm to the nearest 0.5cm b 9kg 75g to the nearest 0.5kg.	a <u>15.5cm</u> b <u>9kg</u>
6 Find the product of $1\frac{2}{3}$ and 30.	<u>50</u>
7 In how many years will the interest on $\pounds 100$ at 6% amount to $\pounds 12$?	<u>2</u>
8 Find the difference between (17×10) and (1.7×10) .	<u>153</u>
9 Write $\frac{21}{50}$ as a decimal fraction.	<u>0.42</u>
10 The area of a carpet is 58.5m^2 . The length is 9m. Find the width.	<u>6.5m</u>
11 20l of lemonade is poured in equal amounts into 50 bottles. How many millilitres are there in each bottle?	<u>400ml</u>
12 An aircraft travels 180km in 15min. Find its speed in kilometres per hour.	<u>720km/h</u>

C	Answer												
1 Ryan spent $\pounds 1.40$ which was $\frac{5}{6}$ of his money. How much had he at first?	<u>$\pounds 1.68$</u>												
2 A family of four drink 2.5l milk every day. What is the average amount in millilitres for each person?	<u>625ml</u>												
3 Meena's salary is $\pounds 795.63$ a month. Round this amount to the nearest $\pounds 10$ and then find her approximate annual salary.	<u>$\pounds 9600$</u>												
4 Mary was born in May 1883 and died in June 1967. How old was she when she died?	<u>84</u>												
5  The circumference of the circle measures 31.4cm. Its radius is 5cm. Find the perimeter of the semicircle.	<u>25.7cm</u>												
6 A meal at a restaurant cost $\pounds 40.00$. A customer paid a tip of 8%. How much was the tip?	<u>$\pounds 3.20$</u>												
7 Sweets cost 6p for 10. How many sweets can be bought for $\pounds 1.14$?	<u>190</u>												
8 <table border="1" data-bbox="869 1064 1053 1232"> <thead> <tr> <th>W</th> <th>X</th> <th>Y</th> </tr> </thead> <tbody> <tr> <td>78°</td> <td>60°</td> <td>40°</td> </tr> <tr> <td></td> <td>71°</td> <td>90°</td> </tr> <tr> <td>51°</td> <td></td> <td></td> </tr> </tbody> </table> Two of the angles in each of the triangles W, X and Y are given. Find the third angle in each triangle.	W	X	Y	78°	60°	40°		71°	90°	51°			W <u>51°</u> X <u>49°</u> Y <u>50°</u>
W	X	Y											
78°	60°	40°											
	71°	90°											
51°													
9 The chart shows the distances travelled by a motorist in 3 hours. Find his average speed in kilometres per hour.	<u>90km/h</u>												
	<table border="1" data-bbox="869 1422 1396 1512"> <thead> <tr> <th>09:00–10:00</th> <th>10:00–11:00</th> <th>11:00–12:00</th> </tr> </thead> <tbody> <tr> <td>85km</td> <td>110km</td> <td>75km</td> </tr> </tbody> </table>	09:00–10:00	10:00–11:00	11:00–12:00	85km	110km	75km						
09:00–10:00	10:00–11:00	11:00–12:00											
85km	110km	75km											
10 The scale of a map is 1:10000. What distance in metres is represented on the map by a 1mm b 3.5cm?	a <u>10m</u> b <u>350m</u>												
11  The shape is divided into a rectangle and a triangle. Find the area of a the triangle b the whole shape.	a <u>12.5cm^2</u> b <u>62.5cm^2</u>												
12  The volume of the cuboid is 175cm^3 . Find its length.	<u>7cm</u>												

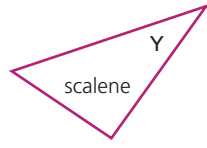
SECTION 2 | Test 11

- A** **Answer**
- three 50ps and thirteen 10ps = £ 2.80
 - $5\text{l} \div 4 =$ 1250ml
 - $4\text{h } 27\text{min} + 2\text{h } 35\text{min} =$ 7h 2min
 - 6% of 500ml = 30ml
 - $3.75\text{m} - 2800\text{mm} =$ 950mm
 - $1.12 \div 8 =$ 0.14
 - $14 - 5\frac{3}{8} =$ 8 $\frac{5}{8}$
 - $\frac{4}{9} \times \frac{3}{5} =$ $\frac{4}{15}$
 - $10 - 2 \times 5 + 9 \div 3 =$ 3
 - Write as decimal fractions.
a 23% b $\frac{3}{15}$ a 0.23 b 0.2
 - 0.25 million + 6700 = 256700
 - $£ \blacksquare \div 7 = £2.67$ £18.69

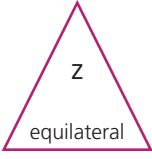
- B** **Answer**
- Subtract half of £4.36 from £5. £2.82
 - Find in litres the total of 375ml, 0.325l and 0.25l. 0.950l
 - Find in millimetres $\frac{7}{10}$ of 8cm. 56mm
 - Multiply 50 by $1\frac{4}{5}$. 90
 - What distance is travelled in 40min walking at an average speed of 6km/h? 4km
 - Write as a percentage.
a 30p of £2 a 15%
b 30p of £4 b 7.5%
 - 1m of felt costs £6. Find the cost of 90cm. £5.40
 - How many thousandths have the same value as 16 hundredths? 160 thousandths
 - Write 5cm of 10m as a fraction in its simplest form. $\frac{1}{200}$
 - Find the difference between 100 times £0.36 and 1000 times £0.36. £324
 - a Write as a decimal to the nearest tenth $9\frac{37}{100}$. a 9.4
b Write to the first decimal place 8.64. b 8.6
 - \blacksquare miles \approx 32km 20 miles

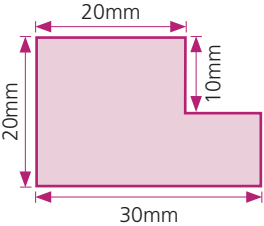
- C** **Answer**
- Write as a fraction in its lowest terms.
a 2p of 10p b 5p of £1 a $\frac{1}{5}$ b $\frac{1}{20}$
 -  Calculate angle x and angle y. $\angle x$ 88°
 $\angle y$ 135°
 - Find the total mass of 50 packets each having a mass of 3.56kg. 178kg
 - Alice pays £9.00 per week for meals at work. The price of a meal is to be increased by 5%. How much will she pay then? £9.45
 - 09998.7 This is a reading of the number of kilometres travelled by a car. How many kilometres short of 10000km has the car travelled? 1.3km
 - Share £55 in the ratio of 2:3. £22 £33
 - Which of the triangles X, Y or Z has
a three lines of symmetry a Z
b one line of symmetry b X
c no line of symmetry? c Y
- 

isosceles



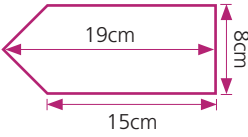
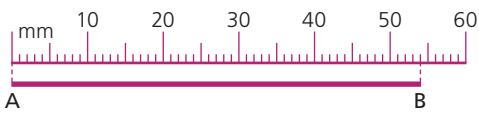
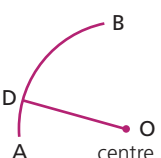
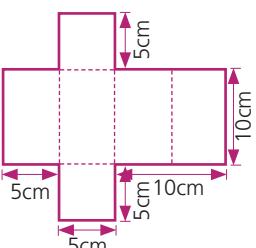
scalene



equilateral
- 10 bananas cost £1.40. Find the cost of 25. £3.50
 -  Find the area of this shape in mm². 500mm²
 - For which of the examples below is
a 100 the best approximation a 10×9.9
b 10 the best approximation? b 10×0.99
- 0.9×10 10×0.99 1.9×10 10×0.09 10×9.9
- Jack delivers newspapers on each of six days. The deliveries take 55min each day. He is paid 80p per hour. How much does he earn each week? £4.40
 - Liz travelled to Blackpool in $2\frac{1}{2}$ h at an average speed of 64km/h. How far did she travel? 160km

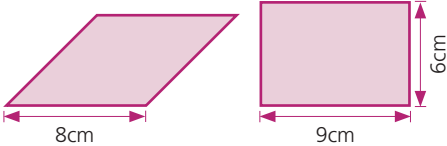
A	Answer
1 $2 \times 34 \times 5 =$	<u>340</u>
2 $\pounds 3.73 + \pounds 1.17 + 90\text{p} = \pounds$ 	<u>£5.80</u>
3 $\frac{3}{8} \times \frac{2}{3} =$	<u>$\frac{1}{4}$</u>
4 $855\text{g} +$ $\text{g} = 1.25\text{kg}$	<u>395g</u>
5 a $86\text{p} =$ % of $\pounds 1$ b $50\text{p} =$ % of $\pounds 5$	a <u>86%</u> b <u>10%</u>
6 $\frac{232}{8} = x$. Find the value of x .	<u>29</u>
7 $3.5\text{l} - (750\text{ml} \times 4) =$ ml	<u>500ml</u>
8 $\begin{array}{r} 7.5 \\ 20 \overline{) y} \end{array}$ Find the value of y .	<u>150</u>
9 $200 \times 0.018 =$	<u>3.6</u>
10 100 miles \approx km	<u>160km</u>
11 $\pounds 10 - (\pounds 2.27 \times 3) =$	<u>£3.19</u>
12 $(6 \times 0.5) - (7 \times 0.25) =$	<u>1.25</u>

B	Answer
1 Write $77 \div 8$ as a an improper fraction b a mixed number.	a <u>$\frac{77}{8}$</u> b <u>$9\frac{5}{8}$</u>
2 A magazine is 1.8mm thick. What would be the height of a pile of a five magazines b 15 magazines?	a <u>9mm</u> b <u>27mm</u>
3 How many days inclusive from 19 October to 6 November?	<u>19</u>
4 How many thousands in a quarter of a million?	<u>250 Th</u>
5 How many grapes costing 2p each can be bought for $\pounds 5.90$?	<u>295</u>
6 One can contains 1.25l and another 950ml. Find the average contents in litres.	<u>1.1l</u>
7 Write as a decimal. a 850g of 1kg b 730g of 1kg	a <u>0.85</u> b <u>0.73</u>
8 The height of a triangle is 20cm and the area is 160cm^2 . Find the length of the base.	<u>16cm</u>
9 Divide the total of $\pounds 3.87$ and $\pounds 4.33$ by 4.	<u>£2.05</u>
10 Write as a decimal. a $\frac{9}{20}$ b $\frac{7}{25}$	a <u>0.45</u> b <u>0.28</u>
11 Find the distance covered in 20min at an average speed of 15km/h.	<u>5km</u>
12 8% of a sum of money is 24p. Find the whole amount.	<u>£3.00</u>

C	Answer
1 Write each of the following to the nearest whole unit. a 8.502kg b 6.92l	a <u>9kg</u> b <u>7l</u>
2 How many jars of jam costing 80p each can be bought for $\pounds 4.80$?	<u>6</u>
3 Which of these decimals is equal to a 25% b $2\frac{1}{2}\%$?	a <u>0.25</u> b <u>0.025</u>
<u>2.5 0.025 0.25 25.0</u>	
4 Write the value of each. a $24 + 6 \div 3 - 1$ b $(24 + 6) \div (3 - 1)$ c $(24 + 6) \div 3 - 1$	a <u>25</u> b <u>15</u> c <u>9</u>
5  Find the area of the shape.	<u>136cm²</u>
6 Write in kilometres per hour a speed of 9km in 10min.	<u>54km/h</u>
7 A discount of $\pounds 8$ was given when paying a bill of $\pounds 64$. Write the discount as a a simple fraction in its lowest terms b a percentage.	a <u>$\frac{1}{8}$</u> b <u>12½%</u>
8 The mass of $\pounds 1$ worth of 1p coins is 356g. What is the mass of 25 of the coins?	<u>89g</u>
9 The line AB has been drawn to the scale 1cm to 5km. Find the distance represented by the line.	<u>27km</u>
	
10  AB is a part of the circumference of a circle 2.8cm in diameter. Find in millimetres the length of the line OD.	<u>14mm</u>
11 The population of a town in 1950 was 1.0 million. By the year 2000 there was a 10% increase. Write in millions the population in the year 2000.	<u>1.1 million</u>
12  This is the net of a box. When the box is made, what will be a the surface area b the volume?	a <u>250cm²</u> b <u>250cm³</u>

Write the numbers 1 to 20 down the side of a piece of paper.
Write alongside these numbers the **answers only** to the following questions.
Work as quickly as you can. Time allowed – **10 minutes**.

1 $\frac{3720}{8} =$ _____ **465**

2  By how many centimetres is the perimeter of the rhombus greater than the perimeter of the rectangle? _____ **2cm**

3 Add 145 000 to 1.7 million. Answer in digits. _____ **1 845 000**

4 How many 125mm lengths can be cut from 2.5m? _____ **20**

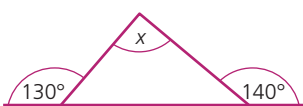
5 $30 - 5 \times 4 + 7 =$ _____ **17**

6 How many days inclusive from 20 April to 2 June? _____ **44 days**

7 Tariq travels from A to B in 1h. If he travels at the same average speed, how many minutes will it take him to travel from B to C? _____ **50min**



8 Write the larger amount when £144 is divided in the ratio 3:5. _____ **£90**

9  Find in degrees the measurement of $\angle x$. _____ **90°**

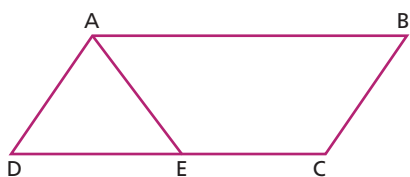
10 In a sale, a table costing €625 was reduced by 20%. Find how much it was reduced by. _____ **€125**

11 Isobel received £674.20 for four weeks' work. Find to the nearest £ the average weekly wage. _____ **£169**

12 10 doughnuts cost £5.65. Find the cost of eight. _____ **£4.52**

13 Three eggs in a box of 150 eggs were broken. What percentage of the eggs was broken? _____ **2%**

14 The mass of a tin of chickpeas is 439g. Find to the nearest kilogram the total mass of 20 tins. _____ **9kg**

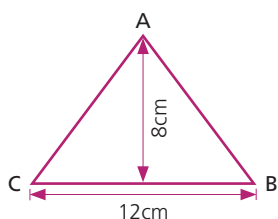
15  The figure ABCD is a parallelogram. The triangle AED is an equilateral triangle. By how many degrees is $\angle C$ greater than $\angle B$? _____ **60°**

16 A map is drawn to a scale of 1:250. What distance in metres does a line 100mm long represent? _____ **25m**

17 7kg of sugar are used in 6 weeks. Write in kilograms correct to the first decimal place the average amount used each week. _____ **1.2kg**

18 Find the cost of 2kg 100g at 45p per $\frac{1}{2}$ kg. _____ **£1.89**

19 The marks scored in two tests were $\frac{40}{50}$ and $\frac{18}{20}$. Find as a percentage the average score. _____ **85%**

20  By how many cm^2 is the area of the triangle ABC greater than a triangle on the same base but half the height? _____ **24 cm^2**

You will work through Progress Test 2 at **four** different times – once at the end of Section 2, then again after you have completed each of Section 3 Test 4, Test 8 and Test 12.

When you first complete the test:

a colour the first column to show the number of answers correct out of 20


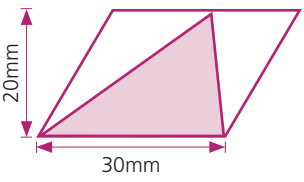
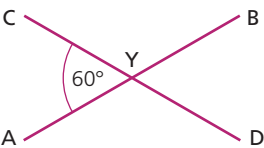
b enter the date.

Each time you take the test, enter the result and the date in the marked columns.

	1st	2nd	3rd	4th
20				
19				
18				
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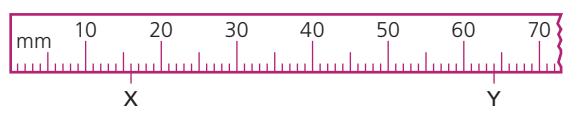
A	Answer
1 $435\text{g} + 370\text{g} + 265\text{g} = \square \text{ kg}$	<u>1.07kg</u>
2 7% of $6\text{m} = \square \text{ cm}$	<u>42cm</u>
3 $5.3 - 0.19 =$	<u>5.11</u>
4 $4x = 28$. Find the value of x .	<u>7</u>
5 Write in digits 0.65 million.	<u>650000</u>
6 $1.55 \times 8 =$	<u>12.4</u>
7 $1.3\text{km} - 750\text{m} = \square \text{ m}$	<u>550m</u>
8 $\pounds 4.57 \times 6 =$	<u>\pounds 27.42</u>
9 $376\text{min} = \square \text{ h } \square \text{ min}$	<u>6h 16min</u>
10 $10^3 - 10^2 =$	<u>900</u>
11 Write as a decimal $5 + \frac{23}{1000}$.	<u>5.023</u>
12 $\pounds 3.60 \div 20 = \square \text{ p}$	<u>18p</u>

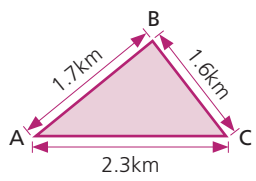
B	Answer
1 Find in metres the total of 6m , 90cm , 7cm and 8mm .	<u>6.978m</u>
2 Increase $\pounds 50$ by 4% .	<u>\pounds 52</u>
3 What is the area of the largest triangle that can be cut from a square with sides measuring 8cm each?	<u>32cm^2</u>
4 How many days inclusive from 2 July to 5 September?	<u>66d</u>
5 Find the change from $\pounds 5$ after spending 36p and $\pounds 1.58$.	<u>\pounds 3.06</u>
6 Write to the nearest 1p. a $\pounds 0.345$ b $\pounds 1.014$	a <u>35p</u> b <u>\pounds 1.01</u>
7 Write these numbers, putting in a decimal point so that the value of the 3 in each is equal to 3 hundredths. a 463 b 536 c 1003	a <u>4.63</u> b <u>0.536</u> c <u>10.03</u>
8 Write $\frac{1}{3}$ as a decimal fraction correct to two decimal places.	<u>0.33</u>
9 How many grams in 65% of 1kg ?	<u>650g</u>
10 20 peppers cost $\pounds 6.60$. Find the cost of 8.	<u>\pounds 2.64</u>
11 Find the total in litres of $(650\text{ml} \times 4)$ and 0.4l .	<u>3l</u>
12 A car travels 15km in 10min . Find its speed in kilometres per hour.	<u>90km/h</u>

C	Answer						
1 Subtract $\pounds 1.60$ from the total of twelve 20ps, five 10ps and seven 5ps.	<u>\pounds 1.65</u>						
2 When a number is divided by 8 the answer is $\frac{3}{4}$. What is the number?	<u>6</u>						
3 Which digit other than 1 is a factor of all these numbers? <table border="1" style="display: inline-table; margin: 5px;"><tr><td>15</td><td>12</td><td>18</td><td>51</td><td>21</td></tr></table>	15	12	18	51	21	<u>3</u>	
15	12	18	51	21			
4 $\begin{array}{r} 175 \text{ r } 5 \\ 6 \overline{) x} \end{array}$ What number does x represent?	<u>1055</u>						
5  Divide the fraction $\frac{2}{3}$ by 3.	<u>$\frac{2}{9}$</u>						
6 How many years are between MDCCXCV and MDCCC? Give your answer in digits.	<u>5</u>						
7 Find in mm^2 the area of a the parallelogram b the shaded triangle.	a <u>600mm^2</u> b <u>300mm^2</u>						
							
8 Daniel has $\pounds 20$ to spend in seven days. How much is this per day to the nearest 10p?	<u>\pounds 2.90</u>						
9  a Name the angle which is vertically opposite to $\angle \text{CYA}$. b Write its measurement in degrees. c Write the measurement in degrees of $\angle \text{CYB}$.	a <u>$\angle \text{BYD}$</u> b <u>60°</u> c <u>120°</u>						
10 For how many hours and minutes is the office open each day? <table border="1" style="display: inline-table; margin: 5px;"><tr><td>office opens</td><td>8.50 a.m.</td></tr><tr><td>closes for lunch</td><td>12.15 p.m. to 1.45 p.m.</td></tr><tr><td>office closes</td><td>5.15 p.m.</td></tr></table>	office opens	8.50 a.m.	closes for lunch	12.15 p.m. to 1.45 p.m.	office closes	5.15 p.m.	<u>6h 55min</u>
office opens	8.50 a.m.						
closes for lunch	12.15 p.m. to 1.45 p.m.						
office closes	5.15 p.m.						
11 Dinner for eight people cost $\pounds 120.00$. How much will dinner cost for 10 people at the same rate?	<u>\pounds 150</u>						
12 A 4cm line on a plan represents a distance of 10m . a What does 1cm represent? b Write the scale as a fraction.	a <u>2.5m</u> b <u>$\frac{1}{250}$</u>						

A	Answer
1 $\frac{2}{3} \times 120 =$	<u>80</u>
2 $(156 + 64) - \square = 123$	<u>97</u>
3 $3.014 \times 100 =$	<u>301.4</u>
4 $\frac{£48}{5} = £ \square$	<u>£9.60</u>
5 6.5% of £8.00 = \square p	<u>52p</u>
6 $860\text{m} + 312\text{m} + 140\text{m} = \square \text{km}$	<u>1.312km</u>
7 Find the cost of 2.5m at £1.40 per metre.	<u>£3.50</u>
8 $\frac{3}{5} \div 2 =$	<u>$\frac{3}{10}$</u>
9 $350\text{kg} \times 6 = \square$ tonnes	<u>2.1t</u>
10 $2\text{min } 43\text{s} + 5\text{min } 38\text{s} =$	<u>8min 21s</u>
11 $x + 1.15 = 2.2$. Find the value of x.	<u>1.05</u>
12 $£2.50 \times 36 =$	<u>£90.00</u>

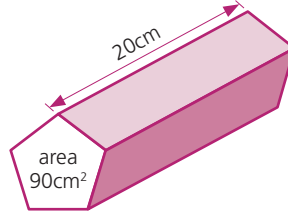
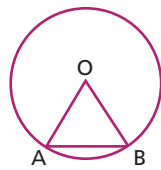
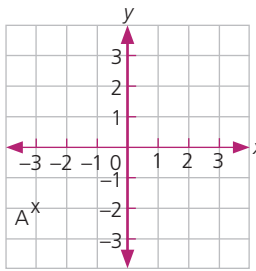
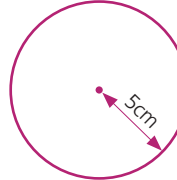
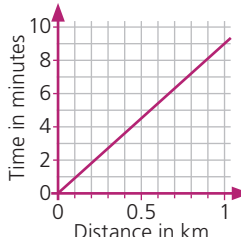
B	Answer
1 Find the difference between $96 - 24 \div 6$ and $(96 - 24) \div 6$.	<u>80</u>
2 Write 3.454kg to the nearest 100g.	<u>3.5kg</u>
3 The average of 8 numbers is 25. Find the sum of the numbers.	<u>200</u>
4 What percentage is a 15p of £3 b 40p of £2?	a <u>5%</u> b <u>20%</u>
5 How many times greater is 30.7 than 3.07?	<u>10</u>
6 Write $\frac{25}{30}$ in its lowest terms.	<u>$\frac{5}{6}$</u>
7 One doughnut costs 11p. Find the cost of a 100 b 500.	a <u>£11.00</u> b <u>£55.00</u>
8 How many centimetres more than 2m is the perimeter of a regular hexagon with sides measuring 35cm each?	<u>10cm</u>
9 $1000 \times 100 \times 10$. Write the answer in words.	<u>one million</u>
10 Which of these numbers are square numbers? 7 35 1 64 121 50	<u>1, 64, 121</u>
11 How many pieces of tape each 12.5cm long can be cut from 2m of tape?	<u>16</u>
12 A square has an area of 0.16m^2 . Find a the length of one side in metres b the perimeter in centimetres.	a <u>0.4m</u> b <u>160cm</u>

C	Answer
1 A full truck has a mass of 4180kg. The mass of the truck when empty is 3200kg. Find, in kilograms, the mass of the truck's load.	<u>980kg</u>
2 Write the distance between X and Y a in millimetres b in centimetres c in metres.	a <u>48mm</u> b <u>4.8cm</u> c <u>0.048m</u>
	
3 How many $\frac{1}{4}$ l glasses can be filled from a $3\frac{1}{2}$ l carton?	<u>14</u>
4 An aeroplane travels at a speed of 1800km/h. How far will it travel in a 1min b 1s?	a <u>30km</u> b <u>500m</u>
5 A stack of 1p coins is 3cm high. Each coin is 1.5mm thick. What is the total value of the coins?	<u>20p</u>
6 What volume of concrete in m^3 is needed to cover the base to a depth of 10cm?	<u>1m^3</u>

7 By how much is 5% of £250 greater than 4% of £250?	<u>£2.50</u>
8 Emily's watch loses 2min each day. How many seconds is this per hour?	<u>5s</u>
9 <div style="border: 1px solid black; padding: 5px; display: inline-block;"> Stationery 100 crayons £2.55 1000 crayons £20.20 </div> Find the cost per crayon to the nearest penny when buying a 100 crayons b 1000 crayons.	a <u>3p</u> b <u>2p</u>
10 Wooden planks 10cm wide are used to cover a floor 4m long and 3.5m wide. Find the total length of the strips.	<u>140m</u>
11 A model aeroplane is made to a scale of 1:50. If the span of the wings of the model is 30cm, what is the actual length in metres of the span of the aircraft's wings?	<u>15m</u>
12  By how many metres is the distance from A to C via B less than the distance from C to B via A?	<u>700m</u>

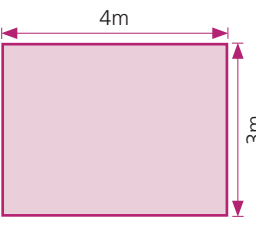
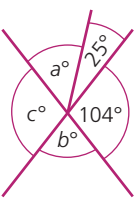
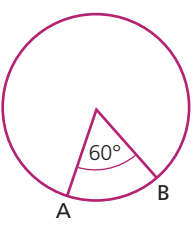
A	Answer
1 $32 + 29 + 58 + 70 =$	<u>189</u>
2 $9^2 - 1^2 =$	<u>80</u>
3 $£1.67 \times 9 =$	<u>£15.03</u>
4 $\frac{£6.88}{8} = \square p$	<u>86p</u>
5 $(0.1 + 0.15) \times 4 =$	<u>1</u>
6 $37 \text{ hours} \div 5 = \square \text{ h } \square \text{ min}$	<u>7h 24min</u>
7 $\frac{2}{3} \div 5 =$	<u>$\frac{2}{15}$</u>
8 $\frac{5}{8}$ of 2400 =	<u>1500</u>
9 $2\text{km} \times 0.25 = \square \text{ m}$	<u>500m</u>
10 99% of 1kg = $\square \text{ g}$	<u>990g</u>
11 $50\text{mm} \times 20 = \square \text{ m}$	<u>1m</u>
12 $£5 - (£1.37 + £2.45) =$	<u>£1.18</u>

B	Answer
1 Write the number which is halfway between 1.5 and 2.0.	<u>1.75</u>
2 Reduce £30 by 6%.	<u>£28.20</u>
3 Write $8\frac{5}{9}$ as an improper fraction.	<u>$\frac{77}{9}$</u>
4 What percentage of a sum of money remains after 12.5% has been spent?	<u>87.5%</u>
5 How many tens are there in one hundred thousand?	<u>10000</u>
6 Arrange these digits to make the largest possible even number. <div style="border: 1px solid black; display: inline-block; padding: 2px;">1 0 8 6 5</div>	<u>86510</u>
7 Approximate a £16.28 to the nearest 10p b 14.75 to one decimal place.	a <u>£16.30</u> b <u>14.8</u>
8 Find in metres the perimeter of a regular pentagon with sides measuring 840mm each.	<u>4.2m</u>
9 Write $\frac{2}{3}$ as a decimal correct to two decimal places.	<u>0.67</u>
10 How many pence have the same value as £1000?	<u>100000p</u>
11 a How many times can 20 be subtracted from 495 without going below 0? b What is the remainder?	a <u>24</u> b <u>15</u>
12 The base of a triangle is 1m and its height is 50cm. Find its area in cm^2 .	<u>2500cm^2</u>

C	Answer
1  Find in cm^3 the volume of the 3D shape.	<u>1800cm^3</u>
2 How many fairy cakes costing 8p each can be bought for £30?	<u>375</u>
3  O is the centre of the circle. $\angle OAB$ is 56° . Find a $\angle OBA$ b $\angle AOB$.	a <u>56°</u> b <u>68°</u>
4 What is $\frac{1}{2}\%$ of a £2000 b £500?	a <u>£10</u> b <u>£2.50</u>
5  Point A is at $(-3, -2)$. Write the coordinates of its reflection in the x-axis.	<u>$(-3, 2)$</u>
6 Find to the nearest penny the cost of one kiwi when a 10 cost 73p b 10 cost £1.15.	a <u>7p</u> b <u>12p</u>
7 A point at $(-1, -1)$ is translated two squares to the left and one square up. What are its new coordinates?	<u>$(-3, 0)$</u>
8  The circumference of a circle is 3.14 times the diameter. Find the length of the circumference of this circle.	<u>31.4cm</u>
9 The cooking time for a chicken is given as 20min per 500g plus a further 20min. a How long does it take to cook a 2kg chicken? b The chicken must be cooked by 1.15 p.m. At what time must it go in the oven?	a <u>1h 40min</u> b <u>11.35 a.m.</u>
10 A 5l bottle of washing liquid cost £1.00. If 250ml are used each day, what is the cost per day?	<u>5p</u>
11 A television costs £1500. How many months does it take to pay for it at £75 per month?	<u>20mth</u>
12  The graph shows the time taken by Hina to walk 1km. a How many minutes does it take to walk 1km? b Estimate to the nearest 100m the distance walked in 5min.	a <u>9min</u> b <u>600m</u>

A	Answer
1 $(37p + 28p) - (13p + 42p) =$	<u>10p</u>
2 $7 \times \text{£} \square = \text{£}10.36$	<u>£1.48</u>
3 $3.5 - \square = 0.05$	<u>3.45</u>
4 $2\frac{1}{8} + 1\frac{1}{4} + 1\frac{3}{8} =$	<u>$4\frac{3}{4}$</u>
5 $3\frac{1}{2}$ years = \square months	<u>42mth</u>
6 10% of 1.5l = \square ml	<u>150ml</u>
7 $\frac{3}{5} \div 4 =$	<u>$\frac{3}{20}$</u>
8 $\text{£}24.00 \div 100 = \square$ p	<u>24p</u>
9 $800\text{kg} \times \square = 5.6\text{t}$	<u>7</u>
10 $45\text{cm} - (55\text{mm} \times 6) = \square$ cm	<u>12cm</u>
11 $\frac{847}{90} = \square$ r \square	<u>9 r 37</u>
12 $\text{£}1.25 \times 24 =$	<u>£30</u>

B	Answer
1 Find the number which is 95% greater than 100.	<u>195</u>
2 How many sixths remain when $\frac{1}{3}$ is subtracted from $\frac{1}{2}$?	<u>$\frac{1}{6}$</u>
3 8.379 Write as a decimal the difference in value between the digit marked x and the digit marked y.	<u>0.061</u>
4 From the sum of £28.50 and £13.75 deduct £10.25.	<u>£32.00</u>
5 $0.6 \times 4 = 2.4$ Now find a 0.6×0.4 b 0.6×0.04 .	a <u>0.24</u> b <u>0.024</u>
6 The area of a triangle is 36cm^2 . Its height is 6cm. Find the length of the base.	<u>12cm</u>
7 Find the total length in metres of 144 strips each 0.25m long.	<u>36m</u>
8 Six sandwiches cost £15. Find the cost of a two b five.	a <u>£5.00</u> b <u>£12.50</u>
9 Find the product of 18, 5 and 4.	<u>360</u>
10 Write 750ml of 3l as a a fraction in its simplest form b a percentage.	a <u>$\frac{1}{4}$</u> b <u>25%</u>
11 Multiply 1h 25min by 5.	<u>7h 5min</u>
12 Increase £1.76 by 10%. Give the answer to the nearest penny.	<u>£1.94</u>

C	Answer
1  How many square tiles with sides measuring 20cm each are needed to cover the floor?	<u>300</u>
2 When it is noon in London it is 07:00 on the same day in New York. What is the time in New York when it is 14:40 in London?	<u>09:40</u>
3  Find in degrees the size of $\angle a$, $\angle b$ and $\angle c$.	$\angle a$ <u>51°</u> $\angle b$ <u>76°</u> $\angle c$ <u>104°</u>
4 A sum of money was divided between Riaz and Markus in the ratio of 3:2. Riaz received the larger share. Write the amount each received a as a fraction a Riaz <u>$\frac{3}{5}$</u> Markus <u>$\frac{2}{5}$</u> b as a percentage. b Riaz <u>60%</u> Markus <u>40%</u>	
5 Three 5ml spoonfuls of medicine are to be taken daily for two weeks. How many millilitres are required?	<u>210ml</u>
6 25 ice creams cost £2.40. a Find the cost of 100. a <u>£9.60</u> b Find to the nearest penny the cost of one. b <u>10p</u>	
7 What is the highest common factor of 16, 32 and 56?	<u>8</u>
8 Multiply 15p by a 5 a <u>75p</u> b 50 b <u>£7.50</u> c 500. c <u>£75.00</u>	
9  a What fraction of the circumference of the circle is the arc AB? a <u>$\frac{1}{6}$</u> b If the circumference measures 56.4cm, find the length of the arc AB. b <u>9.4cm</u>	
10 A map is drawn to a scale of 1mm to 1m. What length of line in millimetres represents a distance of 0.3km?	<u>300mm</u>
11 Dad increased Mia's savings by 10% when he gave her £2.50. How much had she already saved?	<u>£25.00</u>
12 By how much is it cheaper to buy a pack of four drinks at £1.64 than it is to buy four individual drinks costing 45p each?	<u>16p</u>


A	Answer
1 $£0.175 \times 2 = \square$ p	<u>35p</u>
2 5% of £44 =	<u>£2.20</u>
3 $4.056\text{kg} + \square\text{g} = 4.75\text{kg}$	<u>694g</u>
4 $9 \times 10^4 =$	<u>90 000</u>
5 $£50.04 \div 3 =$	<u>£16.68</u>
6 $(\frac{7}{8} \text{ of } 56) + (\frac{2}{3} \text{ of } 30) =$	<u>69</u>
7 $£0.34 \times 50 = \square$ £	<u>£17.00</u>
8 $\frac{17}{25} = \frac{\square}{100} = \square\%$	<u>$\frac{68}{100} = 68\%$</u>
9 $3\text{m} \div 6 = \square$ mm	<u>500mm</u>
10 $250\text{ml} \times 16 = \square$ l	<u>4l</u>
11 $\frac{7}{10} \div 3 =$	<u>$\frac{7}{30}$</u>
12 $500 - (5 \times 8 \times 7) =$	<u>220</u>

B	Answer
1 By how many is 100 000 less than 1 million? Write the answer in digits.	<u>900 000</u>
2 Find the product of 30 and $3\frac{2}{5}$.	<u>102</u>
3 Find the difference between 1min 43.5s and 1min 47.4s.	<u>3.9s</u>
4 How many 0.3m lengths can be cut from 7.5m?	<u>25</u>
5 By how many hundredths is $\frac{3}{4}$ more than 0.7?	<u>5 hundredths</u>
6 Share \$35 in the ratio 5:2.	<u>\$25 \$10</u>
7 The area of a parallelogram is 12.64m^2 . The base is 8m long. Find the height in metres.	<u>1.58m</u>
8 Multiply £40 by 19.	<u>£760</u>
9 What percentage of 4m is 50cm?	<u>$12\frac{1}{2}\%$</u>
10 Find the total contents in litres of eight bottles each containing 355ml.	<u>2.84l</u>
11 $\frac{3}{4}$ of a sum of money is £1.50. Find the whole amount.	<u>£2.00</u>
12 Write in its simplest form the answer to $\frac{8}{10}$ divided by 4.	<u>$\frac{1}{5}$</u>

C	Answer
1 One litre costs £4.20. Find the cost of 1.75l.	<u>£7.35</u>
2 a How many centuries does the timeline represent?	<u>a 40</u>
b How many years are represented on the timeline from X to Y?	<u>b 1800</u>

Timeline showing years from 2000 BCE to 2000 CE. Point X is marked at 1000 BCE and point Y is marked at 1800 CE.

3 A hundred 10ps were placed edge to edge in a straight line. The diameter of a 10p coin is 24.5mm. Find the length of the line in metres.	<u>2.45m</u>
4 Write 30cm of 1m as	
a a fraction in its simplest form	<u>a $\frac{3}{10}$</u>
b a percentage.	<u>b 30%</u>
5 The volume of a cube is 1000cm^3 . Find	
a the length of one edge	<u>a 10cm</u>
b the total surface area in cm^2 .	<u>b 600cm^2</u>
6 Follow this number chain. What number do you reach? Start at $-10 \rightarrow$ add 6 \rightarrow subtract 4 \rightarrow add 9 \rightarrow subtract 5 \rightarrow stop.	<u>-4</u>

7  The shape is a regular hexagon.

a How many degrees are there in each angle at the centre? a 60°

b How many degrees are there in each angle at the centre of a regular octagon? b 45°

8 Round each quantity to the nearest whole unit and then find the approximate answer.

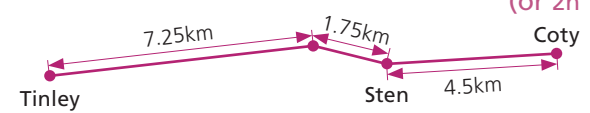
a $9.018\text{l} \times 24 =$ a 216l

b $6.72\text{m} \times 18 =$ b 126m

9 Walking at a speed of 6km/h, how long will it take to walk from

a Sten to Coty a $\frac{3}{4}$ h

b Tinley to Coty? b $\frac{1}{4}$ h
(or 2h 15min)



10 The area of a circle is 78.5cm^2 . Find the area of the semicircle. 39.25cm²

11 What speed in kilometres per hour is the same as $26\frac{1}{2}$ km in 15min? 106km/h

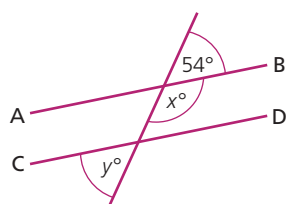
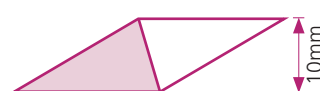
12

Ibrahim	11 years 6 months
Alfie	12 years 4 months
Leah	10 years 2 months

Find the average age of the children. 11yr 4mth

A	Answer
1 $24 + 17 + 46 =$	<u>87</u>
2 $725\text{g} \times 8 =$ <input type="text"/> kg	<u>5.8kg</u>
3 $77\text{p} \times 7 =$ <input type="text"/> £	<u>£5.39</u>
4 $\frac{9}{12} \div 3 =$	<u>$\frac{1}{4}$</u>
5 5% of 1.2kg = <input type="text"/> g	<u>60g</u>
6 $0.054\text{m} =$ <input type="text"/> cm	<u>5.4cm</u>
7 $£10.00 - (£3.79 + £2.81) =$	<u>£3.40</u>
8 $75\text{ml} \times 1000 =$ <input type="text"/> l	<u>75l</u>
9 $8 \times \text{£}y = \text{£}10.16$. Find the value in £s of y .	<u>£1.27</u>
10 $0.01 \times 0.1 =$	<u>0.001</u>
11 $\begin{array}{r} 2.88 \\ 9 \overline{) \square \square \square \square} \end{array}$	<u>25.92</u>
12 4 tonnes cost £10. Find the cost of 3t.	<u>£7.50</u>

B	Answer
1 Write as a percentage 8.5p from £1.	<u>8.5%</u>
2 What do you multiply 0.5 by to give 6.0?	<u>12</u>
3 Add sixty thousand to a quarter of a million.	<u>310000</u>
4 Which of the following are prime numbers? <input type="text"/> 17 <input type="text"/> 27 <input type="text"/> 37 <input type="text"/> 47 <input type="text"/> 57	<u>17, 37, 47</u>
5 Which of the following numbers are composite (not prime) numbers? <input type="text"/> 51 <input type="text"/> 52 <input type="text"/> 53 <input type="text"/> 54	<u>51, 52, 54</u>
6 Diagonals are drawn in a square with sides of 6cm to create four triangles. Find the area of one of these triangles.	<u>9cm²</u>
7 Express as a ratio a 60p to £1.80 b 1mm to 4.5m.	a <u>1:3</u> b <u>1:4500</u>
8 One jam tart costs 12p. Find the cost of 200.	<u>£24.00</u>
9 How many 750ml bottles can be filled from 3l?	<u>4</u>
10 Write 875g of 1kg as a a decimal fraction b a fraction in its simplest form.	a <u>0.875</u> b <u>$\frac{7}{8}$</u>
11 Express $50 \div 9$ a as a mixed number b as a decimal correct to two places.	a <u>$5\frac{5}{9}$</u> b <u>5.56</u>
12 How much greater is the total of £2.45 and £3.55 than £18 divided by 4?	<u>£1.50</u>

C	Answer
1 Which of the measurements is nearest to $\frac{1}{2}\text{m}$? <input type="text"/> 475mm <input type="text"/> 43cm <input type="text"/> 0.575m <input type="text"/> 0.6m	<u>475mm</u>
2 Henry missed the 08:44 train by 7min. How long did he have to wait for the next train at 10:17?	<u>1h 26min</u>
3 By how many metres is 820m less than 1.25km?	<u>430m</u>
4  The lines AB and CD are parallel. Find in degrees $\angle x$ and $\angle y$. $\angle x$ <u>126°</u> $\angle y$ <u>54°</u>	
5 The estimated population of Mexico City is 18850000. Write the population a in millions as a decimal b to the nearest 100000.	a <u>18.85 million</u> b <u>18900000</u>
6 $56 \times 27 = 1512$. Find a 28×27 b $27 \overline{) 15.12}$	a <u>756</u> b <u>0.56</u>
7 π is approximately $3\frac{1}{7}$. Write $3\frac{1}{7}$ as a an improper fraction b a decimal correct to two places.	a <u>$\frac{22}{7}$</u> b <u>3.14</u>
8 By how much is the product of $\frac{2}{3}$ and 6 less than the sum of $\frac{2}{3}$ and 6?	<u>$2\frac{2}{3}$</u>
9 One adult ticket and three half-price tickets cost £10. Find the cost of one adult ticket.	<u>£4.00</u>
10 The perimeter of the rhombus is 80mm. What is the area in mm ² of the shaded triangle? 	<u>100mm²</u>
11 The scale of a plan is 1:250. What is the actual length in metres represented by a line on the plan which measures 40mm?	<u>10m</u>
12 These are the results of a cycling test. Write each school's number of passes as a percentage of the number of children. Barsby Clinton St. Peter's	<u>92%</u> <u>82.5%</u> <u>90%</u>

school	Barsby	Clinton	St. Peter's
number of children	100	200	300
number of passes	92	165	270

A	Answer
1 $(8 \times 7 \times 0) + (8 + 7 + 0) =$	15
2 $\blacksquare \times \frac{1}{2} = 6$	12
3 Find the cost of 125g at £1.24 per $\frac{1}{2}$ kg.	31p
4 $£7.04 \div 8 = \blacksquare$ p	88p
5 0.7 million + 0.5 million. Answer in digits.	1200000
6 $£4.05 \times 10 =$	£40.50
7 $3650\text{mm} + \blacksquare \text{mm} = 5\text{m}$	1350mm
8 30% of £5 =	£1.50
9 $\frac{£2.40}{6} + 60\text{p} = \blacksquare$	£1.00
10 $(480\text{m} + 530\text{m}) \times 2 = \blacksquare \text{km}$	2.02km
11 $\frac{14}{16} \div 5 =$	$\frac{7}{40}$
12 $(600\text{ml} \times 5) \div 2 = \blacksquare \text{l}$	1.5l

B	Answer
1 How much less than 50 is $\frac{2}{7}$ of 28?	42
2 Add twenty to thirty-nine thousand nine hundred and eighty. Answer in digits.	40000
3 Find the whole amount when 20% is 50p.	£2.50
4 $(6 \times 10^4) + 1 =$	60001
5 1000 pencils cost £95. Find the cost of	
a 10	a 95p
b 40.	b £3.80
6 Find the difference in millilitres between 0.75 of 800ml and 0.7 of 1l.	100ml
7 Write as a decimal. a $\frac{1}{50}$ b $\frac{1}{25}$	a 0.02 b 0.04
8 A length of 3.75m is cut into six equal parts. Find the length in millimetres of each part.	625mm
9 Express as a ratio	
a 800ml to 4l	a 1:5
b 600g to 6kg.	b 1:10
10 Write $\frac{1}{6}$ correct to two decimal places.	0.17
11 Subtract the sum of 780mm and 52cm from 2m.	700mm
12 The area of a rectangle is 450cm^2 . The length is 30cm. Find the width in centimetres.	15cm

C	Answer
1 A hundred 2ps weigh 0.712kg. Find the mass in grams of £1 worth of 2ps.	356g
2 These are the number of sweets found by four children in a treasure hunt. What is the mean number of sweets found?	12
<div style="border: 1px solid black; display: inline-block; padding: 2px;">20 17 0 11</div>	
3 $x = 3.5 - 0.5 \times 7$ $y = (3.5 - 0.5) \times 7$ Find the value of	
a x	a 0
b y	b 21
c $y - x$.	c 21
4 Noah and Poppy shared their money in the ratio of 4:3. Noah's share was £12, which was the larger amount. How much was Poppy's share?	£9
5 A bottle of water holds 450ml. Find in litres the contents of 50 bottles.	22.5l
6	
$\angle a$ is twice the size of $\angle b$. $\angle c$ is three times the size of $\angle b$. Find in degrees $\angle a$, $\angle b$ and $\angle c$.	$\angle a$ 120° $\angle b$ 60° $\angle c$ 180°
7 Toby was born on 1 Oct. 04. How old will he be in years and months on 1 Feb. 2020?	15yr 4mth
8 Find the cost to the nearest penny of one balloon when 50 balloons cost £3.80.	8p
9 How many lines of symmetry has	
a a regular pentagon	a 5
b a regular octagon?	b 8
10 3m of silk is divided into nine equal pieces. Write to the nearest centimetre the length of one piece.	33cm
11	
<div style="border: 1px solid black; padding: 5px; display: inline-block;">£2.75 £1.63 £4.25</div>	
Find the change from a £10 note after paying this bill.	£1.37
12	
a What fraction of the area of the circle is the shaded sector?	a $\frac{1}{8}$
b If the circumference of the circle measures 471mm, find to the nearest millimetre the length of the arc AB.	b 59mm

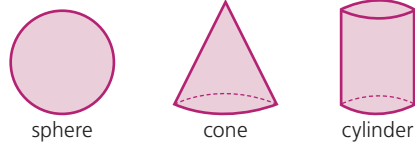
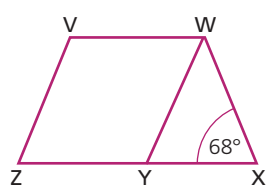
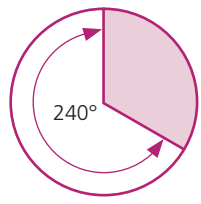
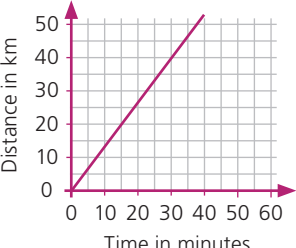
A	Answer
1 2 tonnes – 850kg = \square t	1.15t
2 Round 4546000 to the nearest hundred thousand.	4500000
3 $\frac{1}{2} + \square = \frac{11}{12}$	$\frac{5}{12}$
4 68p + 27p + £1.16 = £ \square	£2.11
5 275mm \times 6 = \square m	1.65m
6 44p \times 9 = £ \square	£3.96
7 1kg costs 70p. Find the cost of 600g.	42p
8 $12 \times 5 \times 20 =$	1200
9 $33\frac{1}{3}\%$ of £51 =	£17.00
10 £13.00 – £ \square = £8.36	£4.64
11 $5.0 \times 0.5 =$	2.5
12 $\frac{£4.02}{7} = \square$ p r \square p	57p r 3p

B	Answer
1 How many hundredths more than $\frac{1}{4}$ is 0.31?	6 hundredths
2 How many litres and millilitres in $\frac{3}{8}$ of 10l?	3l 750ml
3 $3 \times 3 = 3^2 = 9$ $\sqrt{9} = 3$ Find $\sqrt{25}$.	5
4 40 waffles cost £22. Find the cost of eight waffles.	£4.40
5 Find the sum of the prime numbers between 60 and 70.	128
6 How much is 150% of £3.50?	£5.25
7 How many times is 125ml contained in a 0.5l b 2.75l?	a 4 b 22
8 $\begin{array}{r} 4\ 5\ 8\ 3 \\ -\ 2\ 6\ 9\ 4 \\ \hline 1\ 8\ 8\ 9 \end{array}$ Use the example to find a 2694 + 1889 b 4583 – 1889.	a 4583 b 2694
9 The perimeter of a rectangle is 54cm. The breadth is half the length. Find a the length b the breadth.	a 18cm b 9cm
10 What number when multiplied by 6 has a product of 39.6?	6.6
11 Write the coordinates of the point (3, 5) when reflected in the y-axis.	(-3, 5)
12 How many centimetres less than 8m is the total of twenty 36cm lengths?	80cm

C	Answer
1 $\begin{array}{l} 23:57 \\ 23:58 \\ 23:59 \\ a \\ b \end{array}$ These are five consecutive readings at one minute intervals on a 24-hour digital clock. Write the next two readings on the clock.	a 00:00 b 00:01
2 The mass of three-quarters of a cake is $4\frac{1}{2}$ kg. What is the mass of half of the cake?	3kg
3 A room is 5m long and 4m wide. It has a volume of 60m^3 . How high is the room?	3m
4 $\frac{1}{4}$ million people visited an art gallery in one week. This number increased by 1% the following week. What was the increased number of visitors?	252500
5 After saving a regular amount each month for one year Sita had a total of £18. How much had she saved after a 3 months b 10 months?	a £4.50 b £15.00
6 Syed was absent from school 20 times out of a possible attendance of 400. Write as a percentage the number of times he was a absent b present.	a 5% b 95%
7 $\begin{array}{l l} \text{Broughton} & \text{Carnley} \\ \text{depart} & \text{arrive} \\ 15:48 & 16:28 \end{array}$ The distance from Broughton to Carnley is 90km. Find the average speed of the train in kilometres per hour.	135km/h
8 The attendances at four music festivals were 29758, 25495, 24086 and 19810. Round each number to the nearest thousand and find the approximate total attendance.	99000
9 Five melons of equal value cost £5.40. Find the value of three of the melons.	£3.24
10 What is the distance from Ash to Rost a in metres b in kilometres?	a 2400m b 2.4km
11 Find the circumference of the circle to the nearest centimetre. ($C = 2\pi r$; $\pi = 3.14$).	6cm
12 1cm on a map represents an actual distance of 600m. What is the scale of the map?	1:60000

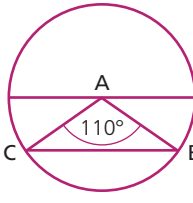

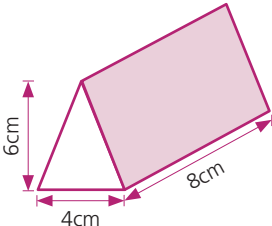
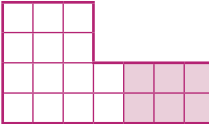
A	Answer
1 $2300 + 970 + 1700 =$	<u>4970</u>
2 $\frac{7}{8} \div 7 =$	<u>$\frac{1}{8}$</u>
3 70% of $360^\circ =$	<u>252°</u>
4 $(15 \times 8) \div 6 =$	<u>20</u>
5 $379\text{m} + 221\text{m} =$ km	<u>0.6km</u>
6 $\frac{\pounds 2.50 \times 12}{6} = \pounds$ 	<u>£5.00</u>
7 a $\frac{1}{2}l + x\text{ml} = 615\text{ml}$. Find x.	a <u>115ml</u>
b $\frac{1}{2}l - 368\text{ml} = y\text{ml}$. Find y.	b <u>132ml</u>
8 a $0.3 \times 0.2 =$	a <u>0.06</u>
b $0.06 \div 0.2 =$	b <u>0.3</u>
9 $\frac{1}{4} + \frac{5}{16} =$	<u>$\frac{9}{16}$</u>
10 $2.475\text{m} \div 9 =$ mm	<u>275mm</u>
11 Subtract 17 from 9.	<u>-8</u>
12 $24.8 \times 1.6 =$ 	<u>39.68</u>
$248 \times 16 = 3968$	

B	Answer
1 How many quarters are there in 36?	<u>144</u>
2 Write as a fraction in its simplest form. a $\frac{4}{1000}$ b $\frac{45}{1000}$ c $\frac{28}{1000}$ a $\frac{1}{250}$ b $\frac{9}{200}$ c $\frac{7}{250}$	
3 1kg costs £4.00. Find the cost of 700g.	<u>£2.80</u>
4 Find the product of 20 and 0.005.	<u>0.1</u>
5 How many centimetres remain when 268cm are taken from 3.4m?	<u>72cm</u>
6 Write to the nearest second decimal place. a 53.176 b 24.694	a <u>53.18</u> b <u>24.69</u>
7 Find the mean of 1.1, 2.3 and 0.8.	<u>1.4</u>
8 Share 3kg in the ratio 1:4.	<u>0.6kg</u> <u>2.4kg</u>
9 Which year is MDCXXXII?	<u>1632</u>
10 Find the area in cm^2 of a square of side 11cm.	<u>121cm^2</u>
11 Which two numbers have a sum of 20 and a product of 36?	<u>2</u> <u>18</u>
12 Deduct $(\pounds 1.15 \times 3)$ from $(\pounds 18 \div 5)$.	<u>15p</u>

C	Answer
1 The approximate population of a city is 1.2 million. The actual population is 1 207 806. Find the difference.	<u>7806</u>
2 Two parcels together have a mass of 18.5kg. One of them is 4kg heavier than the other. Find the mass of each parcel.	<u>7.25kg</u> <u>11.25kg</u>
3 Which of these shapes will have a circular face when cut horizontally, and a rectangular face when cut vertically?	<u>cylinder</u>
	
4 In a class of 30 children 12 were absent. Write the number absent as a a fraction in its simplest form b a ratio of absent to total.	a <u>$\frac{2}{5}$</u> b <u>2:5</u>
5 A bagel costs 35p. How many can be bought for £7.00?	<u>20</u>
6  VWYZ is a rhombus. WXY is an isosceles triangle. Find a $\angle WYZ$ b $\angle VWY$ c $\angle ZVW$.	a <u>112°</u> b <u>68°</u> c <u>112°</u>
7 Tom has 95p and Sophie has 73p. How much must Tom give to Sophie so that each has the same amount?	<u>11p</u>
8 If 1 July falls on a Thursday how many Saturdays will there be in that month?	<u>5</u>
9 One child in every four in a school of 200 walks to school. a What percentage do not walk to school? b How many walk to school?	a <u>75%</u> b <u>50</u>
10 Write the coordinates of the point (3, 5) when reflected in the x-axis.	<u>(3, -5)</u>
11  The area of the circle is 321cm^2 . Find the area of the shaded sector.	<u>107cm^2</u>
12  The graph shows the speed of a car. Use the graph to find the time taken by the car to travel 40km.	<u>30min</u>

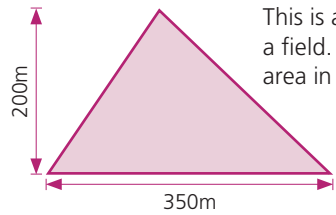
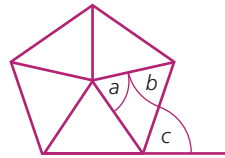
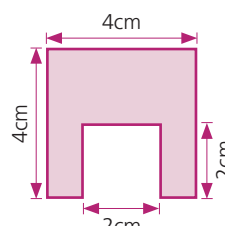
A	Answer
1 $£1.20 \times 3\frac{1}{2} =$	<u>£4.20</u>
2 $\frac{2.64 + 3.36}{2} =$	<u>3</u>
3 $2.25\text{l} - (250\text{ml} \times 6) =$ ml	<u>750ml</u>
4 $\frac{20}{24} \div 25 =$	<u>$\frac{1}{30}$</u>
5 $1200\text{km} - (320\text{km} + 280\text{km} + 335\text{km}) =$	<u>265km</u>
6 a $\frac{1}{8} =$ %	a <u>12.5%</u>
b $\frac{3}{8} =$ %	b <u>37.5%</u>
7 $9.8 \div 4 =$	<u>2.45</u>
8 $£5.00 - £$ $= £2.82$	<u>£2.18</u>
9 $£6 \times \frac{2}{5} =$	<u>£2.40</u>
10 $9x = 33 + 48$. Find the value of x.	<u>9</u>
11 Find the cost of 30cm at £1.80 per metre.	<u>54p</u>
12 $\frac{1}{7}$ of 4kg 60g = g	<u>580g</u>

B	Answer
1 Add $\frac{3}{4}$ of 28 to $\frac{7}{8}$ of 56.	<u>70</u>
2 $(4 \times 10^3) + (2 \times 10^2) =$	<u>4200</u>
3 Increase £3.00 by 7%.	<u>£3.21</u>
4 Write $\frac{3}{8}$ as a decimal fraction.	<u>0.375</u>
5 Find the total mass in kilograms of these amounts of water. 2.7l 95ml 3.4l	<u>6.195kg</u>
6 One pear costs 17p. Find the cost of a 10 b 1000.	a <u>£1.70</u> b <u>£170</u>
7 A rhombus has an area of 20cm ² . Its base is 5cm. Find its height in millimetres.	<u>40mm</u>
8 Approximate 4635 000 to a the nearest 1 000 000 b the nearest 100 000.	a <u>5 000 000</u> b <u>4 600 000</u>
9 Write the year 1916 using Roman numerals.	<u>MCMXVI</u>
10 Find the difference in hundredths between 100×0.016 and 100×0.017 .	<u>10 hundredths</u>
11 Express $43 \div 5$ as a a mixed number b a decimal.	a <u>$8\frac{3}{5}$</u> b <u>8.6</u>
12 Multiply £1.50 by 52.	<u>£78.00</u>

C	Answer
1 A cask holds 20.75l of water. The mass of the cask when empty is 850g. Find the mass of the cask when it is full.	<u>21.6kg</u>
2  A is the centre of the circle. a Name the triangle ABC by its sides. b Calculate the angle at B.	a <u>isosceles</u> b <u>35°</u>
3 Six pairs of socks cost £8.37. Find to the nearest penny the cost of one pair of socks.	<u>£1.40</u>
4 There are 4.545l of shampoo in a plastic container. The shampoo lasts for nine weeks. How many millilitres are used on average per week?	<u>505ml</u>
5  There was 87p change from £3 after buying the multipack. Find the cost of each bottle.	<u>71p</u>
6 Find in litres the volume of a one multipack b eight multipacks.	a <u>2.46l</u> b <u>19.68l</u>
7 A map is drawn to a scale of 1cm to 1km. How many metres are represented on a map by a line 14mm long?	<u>1400m</u>
8  Find a the area of the triangular end of the prism b the volume of the prism.	a <u>12cm²</u> b <u>96cm³</u>
9 A car averaged 8km to a litre of petrol on a four-hour journey of 312km. a How many litres were used on the journey? b What was the average speed?	a <u>39l</u> b <u>78km/h</u>
10 The price of a pair of shoes costing £25 increased by £1.25. Write the increase as a percentage.	<u>5%</u>
11  Write the proportion of shaded squares a as a fraction in its simplest form b as a decimal.	a <u>$\frac{3}{10}$</u> b <u>0.3</u>
12 Matthew arrived at a hotel on 29 October and left on 3 November. The charge for the room was £10.50 per night. What was the total cost of the room?	<u>£52.50</u>

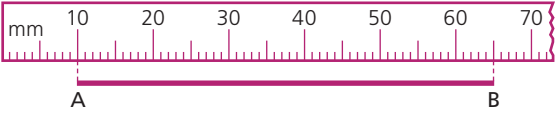
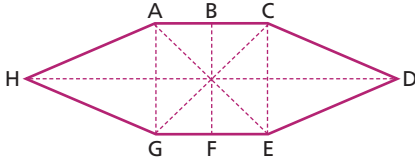
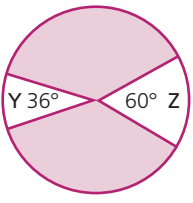
A	Answer
1 $2.999 + 0.1 =$	<u>3.099</u>
2 $\frac{40}{45} \div 8 =$	<u>$\frac{1}{9}$</u>
3 6.25% of £4.00 = \square p	<u>25p</u>
4 £3.24 = $\square \times 2p$	<u>162</u>
5 $86.6 \times 200 =$	<u>17320</u>
6 5.2l - 480ml = \square l	<u>4.72l</u>
7 $5x = 28.2$. Find the value of x.	<u>5.64</u>
8 $11\,730 \div 25 = 469$ r \square	<u>469</u> r <u>5</u>
9 $\pounds 2.78 + \pounds 2.78 + \pounds 2.78 + \pounds 2.78 + \pounds 2.78 =$	<u>£13.90</u>
10 $4\text{kg} \times \frac{3}{\square} = 1500\text{g}$	<u>8</u>
11 40cm cost 50p. Find the cost per metre.	<u>£1.25</u>
12 Subtract 6 from -3.	<u>-9</u>

B	Answer
1 a $\pounds 1.32 \times 4 =$ b $\pounds 1.32 \times 16 =$	a <u>£5.28</u> b <u>£21.12</u>
2 What must be added to $2\frac{5}{8}$ to make $4\frac{1}{2}$?	<u>$\frac{7}{8}$</u>
3 Find 8.5% of £10.	<u>85p</u>
4 The perimeter of a rectangle is 30m. The width is 6.5m. Find its length.	<u>8.5m</u>
5 Divide £162 in the ratio 5:4.	<u>£90</u> <u>£72</u>
6 1000 bags of crisps cost £154.00. Find the cost of one bag of crisps to the nearest penny.	<u>15p</u>
7 How much less than 20 is the product of 1.7 and 9?	<u>4.7</u>
8 How many thousandths in $\frac{1}{4}$ of 0.02?	<u>5 thousandths</u>
9 Find the difference in millimetres between 0.7m and 369mm.	<u>331mm</u>
10 Write 150ml of 750ml as a a fraction in its simplest form b a percentage.	a <u>$\frac{1}{5}$</u> b <u>20%</u>
11 Round these amounts to the nearest £1 and then find the approximate answer. $\pounds 16.70 + \pounds 12.95 + \pounds 9.28$	<u>£39</u>
12 If 5 miles is about 8km, about how many kilometres is 17.5 miles?	<u>28km</u>

C	Answer												
1 3.468×6 Write the answer a to three decimal places b to two decimal places c to one decimal place.	a <u>20.808</u> b <u>20.81</u> c <u>20.8</u>												
2 The contents of four boxes of sweets were 51, 46, 49 and 54. Find the mean contents.	<u>50</u>												
3  This is a plan of a field. Write its area in m^2 .	<u>35000m²</u>												
4 A crate of 240 eggs was delivered to a school kitchen. 12 of the eggs were broken. What percentage were a broken b not broken?	a <u>5%</u> b <u>95%</u>												
5 $F = \{1, 2, 3, 6, \square, \square, \square, 78\}$ F = the set of factors of 78. Find the missing factors.	<u>13</u> <u>26</u> <u>39</u>												
6 Find each missing mass.													
<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td>mass of onions</td> <td>450g</td> <td>1.75kg</td> <td>zkg</td> </tr> <tr> <td>mass of box</td> <td>xg</td> <td>750g</td> <td>150kg</td> </tr> <tr> <td>total mass</td> <td>635g</td> <td>ykg</td> <td>1.1t</td> </tr> </table>	mass of onions	450g	1.75kg	zkg	mass of box	xg	750g	150kg	total mass	635g	ykg	1.1t	x <u>185g</u> y <u>2.5kg</u> z <u>950kg</u>
mass of onions	450g	1.75kg	zkg										
mass of box	xg	750g	150kg										
total mass	635g	ykg	1.1t										
7 A camera costs £85.50. It can be paid for in nine equal instalments. Find the cost of each payment.	<u>£9.50</u>												
8  This is a regular pentagon. Find in degrees the measurement of $\angle a$, $\angle b$, $\angle c$.	$\angle a$ <u>72°</u> $\angle b$ <u>54°</u> $\angle c$ <u>72°</u>												
9 $1\text{g} = 1000\text{mg}$ A selection pack contains 120 chocolates. Each chocolate has a mass of 500mg. a Write the mass of each chocolate in grams. b Find in grams the total mass of the chocolates.	a <u>0.5g or $\frac{1}{2}$g</u> b <u>60g</u>												
10  For the shaded shape find a the area b the perimeter.	a <u>12cm²</u> b <u>20cm</u>												
11 A wall 3m high and 4m wide is to be covered in wallpaper 50cm wide. What length in metres of the paper is required?	<u>24m</u>												
12 Find the cost per kilogram of 1.5kg of ice cream costing £3.18.	<u>£2.12</u> per kg												

A	Answer
1 $(268 + 232) - 350 =$	150
2 $2\,640\,000 =$ million	2.64 million
3 $50p - (17p + 16p + 9p) =$	8p
4 $3.5m - 175cm =$ cm	175cm
5 $\frac{x}{21} = \frac{2}{3}$. Find the value of x .	14
6 Find the cost of 750ml at £4.80 per litre.	£3.60
7 $\begin{array}{r} 16 \text{ r } 4 \\ 8 \overline{) y} \end{array}$ Find the value of y .	132
8 $4 \times 18 \times 50 =$	3600
9 $\frac{6}{8} \div 12 =$	$\frac{1}{16}$
10 $(12\% \text{ of } £5) + (8\% \text{ of } £5) =$	£1.00
11 $7\frac{1}{4}l \div$ $= 725ml$	10
12 $\$0.14 \times 15 =$	\$2.10

B	Answer
1 Find in centimetres the perimeter of an equilateral triangle with sides measuring 96mm each.	28.8cm
2 Write the 24-hour clock time which is 1h 24min after 22:57.	00:21
3 How many times is 800g contained in 3.2kg?	4
4 Divide £85 by 6 a to the nearest 10p b to the nearest penny.	a £14.20 b £14.17
5 The total of two amounts is £12 and their difference is £3.60. Find the two amounts.	£7.80 £4.20
6 Find the difference in thousands between (1×10^5) and (9×10^4) .	10000
7 Write $3\frac{1}{2}\%$ as a decimal.	0.035
8 Multiply £2.54 by 1.5.	£3.81
9 Write the year 1349 using Roman numerals.	MCCCXLIX
10 Increase £15 by 4%.	£15.60
11 Write the scale 1cm to 2km as a fraction.	$\frac{1}{200000}$
12 The diameter of a circle is 6cm. Its circumference is 3.14 times greater. What is the perimeter of the semicircle?	15.42cm

C	Answer										
1 Find the cost per kilogram of a shampoo costing £1.09 for 500g b conditioner costing £1.26 for 600g.	a £2.18 b £2.10										
2 A 50p coin has a mass of 13.5g. What is the mass of £10 worth of 50ps?	270g										
3 Write the length of a line 100 times the length of the line AB a in millimetres b in centimetres c in metres.	a 5500mm b 550cm c 5.5m										
											
4 On a plan of a house the living room measures 44mm long and 40mm wide. The scale of the plan is 1cm to 1m. Find in m^2 the area of the living room.	17.6m ²										
5 Which of the dotted lines are lines of symmetry?	BF HD										
											
6 Ellie ran 800m in 1min 52s. What was her average time per 100m?	14s										
7 On a five-day holiday George walked 14.75km, 13.76km, 12.29km, 10.15km and 9.32km. Round each distance to the nearest kilometre and find the approximate mean distance walked daily.	12km										
8  The circumference of the circle is 420mm. Find the length of the arcs of a sector Y b sector Z.	a 42mm b 70mm										
9 Lemonade can be made of water and lemon juice in the ratio 4:1. How many litres of water are mixed with half a 50l cask of lemon juice?	100l										
10 Find the mean daily temperature.	1°C										
<table border="1" style="margin: auto;"> <tr> <td>Mon</td> <td>Tues</td> <td>Wed</td> <td>Thurs</td> <td>Fri</td> </tr> <tr> <td>5°C</td> <td>3°C</td> <td>0°C</td> <td>-1°C</td> <td>-2°C</td> </tr> </table>		Mon	Tues	Wed	Thurs	Fri	5°C	3°C	0°C	-1°C	-2°C
Mon	Tues	Wed	Thurs	Fri							
5°C	3°C	0°C	-1°C	-2°C							
11 The point (3, 5) is translated two squares to the left and four squares down. The new point is then reflected in the y -axis. What are the coordinates of the reflected point?	(-1, 1)										
12 These are the results of three tests. Write each as a percentage. a $\frac{18}{25}$ b $\frac{30}{40}$ c $\frac{10}{30}$	a 72% b 75% c 33 $\frac{1}{3}$ %										

A

$12 - 7 =$	<u>5</u>	$53 \div 7 =$	<u>7 r 4</u>
$9 + 4 =$	<u>13</u>	$(6 \times 8) + 5 =$	<u>53</u>
$3 \times 6 =$	<u>18</u>	$70 \div 8 =$	<u>8 r 6</u>
$63 \div 9 =$	<u>7</u>	$(4 \times 9) + 7 =$	<u>43</u>
$6 + 9 =$	<u>15</u>	$52 \div 6 =$	<u>8 r 4</u>
$7 \times 8 =$	<u>56</u>	$(7 \times 0) + 3 =$	<u>3</u>
$11 - 7 =$	<u>4</u>	$4 \div 9 =$	<u>0 r 4</u>
$24 \div 3 =$	<u>8</u>	$(8 \times 1) + 6 =$	<u>14</u>
$5 + 8 =$	<u>13</u>	$61 \div 7 =$	<u>8 r 5</u>
$0 \div 7 =$	<u>0</u>	$(9 \times 4) + 5 =$	<u>41</u>
$8 \times 6 =$	<u>48</u>	$77 \times 10 =$	<u>770</u>
$64 \div 8 =$	<u>8</u>	$135 \div 10 =$	<u>13 r 5</u>
$9 \times 3 =$	<u>27</u>	$35 \times 20 =$	<u>700</u>
$13 - 7 =$	<u>6</u>	$204 \div 20 =$	<u>10 r 4</u>
$7 + 8 =$	<u>15</u>	$96 \times 30 =$	<u>2880</u>
$15 - 9 =$	<u>6</u>	$156 \div 40 =$	<u>3 r 36</u>
$0 \times 8 =$	<u>0</u>	$108 \times 60 =$	<u>6480</u>
$4 + 6 =$	<u>10</u>	$302 \div 60 =$	<u>5 r 2</u>
$40 \div 8 =$	<u>5</u>	$88 \times 70 =$	<u>6160</u>
$16 - 7 =$	<u>9</u>	$463 \div 90 =$	<u>5 r 13</u>

B Write these numbers in digits.

forty thousand and nine	<u>40009</u>
eighty-one thousand two hundred and five	<u>81205</u>
two hundred and ten thousand four hundred	<u>210400</u>
five hundred and six thousand and seventy	<u>506070</u>
$700\,000 + 1000 + 90 + 5$	<u>701095</u>
$(4 \times 10\,000) + (8 \times 100) + 9$	<u>40809</u>
1 million	<u>1000000</u>
$1\frac{3}{4}$ million	<u>1750000</u>
2.6 million	<u>2600000</u>
$(6 \times 10^3) + (3 \times 10^2) + (0 \times 10)$	<u>6300</u>
$(9 \times 10^4) + (7 \times 10^3) + (1 \times 10^2) + (3 \times 10)$	<u>97130</u>

Write the answers to these as decimals.

206 tenths	<u>20.6</u>
1509 thousandths	<u>1.509</u>
eighteen hundredths	<u>0.18</u>
$17 + \frac{5}{10} + \frac{3}{1000}$	<u>17.503</u>
$10 + \frac{6}{100} + \frac{7}{1000}$	<u>10.067</u>
$\frac{27}{100} + \frac{8}{1000}$	<u>0.278</u>
$60 + \frac{57}{1000}$	<u>60.057</u>

C Write in digits the number which is

forty less than ten thousand	<u>9960</u>
zero point six two more than ten	<u>10.62</u>
five hundred less than fifty-five thousand	<u>54500</u>
two point seven less than two hundred.	<u>197.3</u>

Write in words the value of the digit underlined.

<u>3</u> 7908	<u>seven thousand</u>
1 <u>6</u> 04326	<u>six hundred thousand</u>
9.0 <u>8</u> 4	<u>eight hundredths</u>
20.5 <u>0</u> 2	<u>two thousandths</u>

$7.9 =$	<u>79</u> tenths	$20.6 =$	<u>206</u> tenths
$0.75 =$	<u>75</u> hundredths	$3.09 =$	<u>309</u> hundredths
$0.018 =$	<u>18</u> thousandths	$10.06 =$	<u>10060</u> thousandths
$5.9 =$	<u>5900</u> thousandths	$0.003 =$	<u>3</u> thousandths

Write these numbers, omitting the zeros which do not alter the value of the number.

17.09	<u>17.09</u>	8.070	<u>8.07</u>
020.60	<u>20.6</u>	30.020	<u>30.02</u>
002730	<u>2730</u>	106.00	<u>106</u>

D

$3.46 + 5.04 =$	<u>8.5</u>	$30.08 \times 10 =$	<u>300.8</u>
$5.16 + 3.8 =$	<u>8.96</u>	$2.017 \times 100 =$	<u>201.7</u>
$1.99 + 2.01 =$	<u>4.00</u>	$0.063 \times 1000 =$	<u>63</u>
$0.76 + 0.493 =$	<u>1.253</u>	$3 \times 7.8 =$	<u>23.4</u>
$2.83 + 7.178 =$	<u>10.008</u>	$0.09 \times 6 =$	<u>0.54</u>
$3.92 - 1.9 =$	<u>2.02</u>	$6.075 \times 8 =$	<u>48.6</u>
$6.1 - 0.7 =$	<u>5.4</u>	$10.3 \div 10 =$	<u>1.03</u>
$10.0 - 9.348 =$	<u>0.652</u>	$3.7 \div 100 =$	<u>0.037</u>
$7.2 - 0.09 =$	<u>7.11</u>	$46 \div 1000 =$	<u>0.046</u>
$8.63 - 3.58 =$	<u>5.05</u>	$18.36 \div 6 =$	<u>3.06</u>
$5.825 - 0.06 =$	<u>5.765</u>	$2.43 \div 9 =$	<u>0.27</u>

Find the value of x .

$x + 19 = 54$	<u>35</u>	Find the value of x .	
$3.2 + x = 10$	<u>6.8</u>	$10 \times x = 3.65$	<u>0.365</u>
$52 - x = 18$	<u>34</u>	$x \times x = 36$	<u>6</u>
$x - 4.05 = 3.6$	<u>7.65</u>	$7x = 108.5$	<u>15.5</u>
$2.3 + x = 20$	<u>17.7</u>	$\frac{x}{5} = 12.8$	<u>64</u>
$x = 17.2 - 5.5$	<u>11.7</u>	$\frac{72}{x} = 9$	<u>8</u>

E Approximate to the nearest:

hundred thousand	1.37 million	<u>1.4 million</u>
thousand	79464	<u>79000</u>
hundred	23086	<u>23100</u>
whole number	a $16\frac{1}{3}$	<u>16</u> b 29.52 <u>30</u>
first decimal place	10.38	<u>10.4</u>
	5.94	<u>5.9</u>
second decimal place.	0.025	<u>0.03</u>
	13.004	<u>13.00</u>

F Work out these divisions

a to 2 decimal places then

$39 \div 8 =$	a <u>4.88</u>	b <u>4.9</u>
$5.5 \div 3 =$	a <u>1.83</u>	b <u>1.8</u>
$14.6 \div 7 =$	a <u>2.09</u>	b <u>2.1</u>

Work out these divisions

a to 3 decimal places then

$58 \div 6 =$	a <u>9.667</u>	b <u>9.67</u>
$34.26 \div 9 =$	a <u>3.807</u>	b <u>3.81</u>

A Find the total of each row of coins.

50p	20p	10p	5p	2p	1p	Total
	2	3	4	6		£1.02
2	5	9			13	£3.03
	7		5	8		£1.81
		17	8		12	£2.22
1	3	6		10		£1.90
5	4	7	12			£4.60
11					23	£5.73

B Find **a** the total cost of the items bought and **b** the change

money given	cost of items bought	total cost	change
50p	9p, 8p, 18p	35p	15p
four 10ps	5 at 7p each	35p	5p
£1	23p, 18p, 40p	81p	19p
£1 and 50p	3 at 38p each	£1.14	36p
£2	10 at 18p each	£1.80	20p
£5 note	£2.75, £1.28	£4.03	97p

C

£0.39 = \square 5ps + seven 2ps	<u>5</u>	10 items cost £1.20	<u>5</u>	39p + 57p + 41p =	<u>£1.37</u>
£0.85 = 50p + \square 5ps	<u>7</u>	1 costs <u>12p</u>	7 cost <u>84p</u>	£1.06 + £3.70 + £0.28 =	<u>£5.04</u>
£1.70 = two 10ps + \square 50ps	<u>3</u>	100 items cost £2.30		£1.36 - 87p =	<u>49p</u>
£2.80 = eight 5ps + \square 20ps	<u>12</u>	10 cost <u>23p</u>	30 cost <u>69p</u>	£4.00 - £1.68 =	<u>£2.32</u>
£4.25 = seven 50ps + \square 5ps	<u>15</u>	20 items cost £3.60		€6.03 - €1.89 =	<u>€4.14</u>
How many items each costing		5 cost <u>90p</u>	1 costs <u>18p</u>	19p × 7 =	<u>£1.33</u>
2p for 98p	<u>49</u>	8 items cost £1.44		£2.08 × 9 =	<u>£18.72</u>
3p for £1.74	<u>58</u>	3 cost <u>54p</u>	7 cost <u>£1.26</u>	£5.78 × 6 =	<u>£34.68</u>
5p for £2.05	<u>41</u>	5 items cost 85p		£3.04 ÷ 8 =	<u>38p</u>
50p for £18.50	<u>37</u>	1 costs <u>17p</u>	9 cost <u>£1.53</u>	£27 ÷ 4 =	<u>£6.75</u>
20p for £25.20	<u>126</u>	40 cost <u>£6.80</u>	100 cost <u>£17.00</u>	\$43.45 ÷ 5 =	<u>\$8.69</u>
5 for 6p for £1.62	<u>135</u>				
7 for 10p for £3.30?	<u>231</u>				

D

55cm =	<u>0.55m</u>	20.7cm =	<u>207mm</u>	Find the cost of:	
309mm =	<u>30.9cm</u>	3.45m =	<u>345cm</u>	100g at 70p per kg	<u>7p</u>
5040mm =	<u>5.04m</u>	10.6m =	<u>10600mm</u>	400g at 45p per kg	<u>18p</u>
1095cm =	<u>10.95m</u>	0.085km =	<u>85m</u>	250g at £1.10 per $\frac{1}{2}$ kg	<u>55p</u>
300m =	<u>0.3km</u>	7.5km =	<u>7500m</u>	3.5kg at 18p per $\frac{1}{2}$ kg	<u>£1.26</u>
2805m =	<u>2.805km</u>	4.285km =	<u>4285m</u>	450g at 70p per $\frac{1}{2}$ kg	<u>63p</u>
5000m =	<u>5km</u>	0.065kg =	<u>65g</u>	75cm at £3.00 per m	<u>£2.25</u>
90g =	<u>0.09kg</u>	8.11kg =	<u>8110g</u>	10cm at £2.90 per m	<u>29p</u>
875g =	<u>0.875kg</u>	5.4l =	<u>5400ml</u>	20cm at £4.20 per m	<u>84p</u>
3500g =	<u>3.5kg</u>	0.75l =	<u>750ml</u>	1.25l at 36p per $\frac{1}{2}$ l	<u>90p</u>
120ml =	<u>0.12l</u>	4.5l =	<u>4500cm³</u>	900ml at 60p per l	<u>54p</u>
650ml =	<u>650cm³</u>	2.008l =	<u>2008cm³</u>	6.5m ² at £4.50 per m ² .	<u>£29.25</u>

E Fill in the missing times.

12-hour clock time	24-hour clock time
10.35 p.m.	22:35
4.10 a.m.	04:10
12.05 a.m.	00:05
11.55 p.m.	23:55

How many hours and minutes between

8.45 a.m. and 11.20 a.m.	<u>2h 35min</u>
10.25 a.m. and 1.05 p.m.	<u>2h 40min</u>
9.38 p.m. and 2.10 a.m.	<u>4h 32min</u>
11:50 and 13:15	<u>1h 25min</u>
06:19 and 10:20?	<u>4h 1min</u>

How many days inclusive

from 28 March to 7 April	<u>11</u>
from 13 May to 4 June	<u>23</u>
from 15 July to 3 August	<u>20</u>
from 24 September to 8 November	<u>46</u>
from 19 October to 10 December?	<u>53</u>

F Approximate to the nearest:

£1 a £12.09	<u>£12.00</u>	b £3.52	<u>£4.00</u>	Approximate to the nearest:	
10p a £2.37	<u>£2.40</u>	b £10.06	<u>£10.10</u>	centimetre	0.837m <u>84cm</u>
				metre	305.6cm <u>3m</u>
				kilogram	9kg 550g <u>10kg</u>
				litre	6.325l <u>6l</u>
				$\frac{1}{2}$ kilogram	7.750kg <u>8kg</u>
				hour	2h 29min <u>2h</u>
				$\frac{1}{2}$ hour	4h 21min. <u>4$\frac{1}{2}$h</u>

Write the answer to the nearest penny.

a $\frac{1}{3}$ of £7.00	<u>£2.33</u>	b £3.10 ÷ 7	<u>44p</u>
c $\frac{1}{8}$ of £17.25	<u>£2.16</u>	d $\frac{1}{4}$ of £3.95	<u>99p</u>

A Change to decimal fractions. When necessary work to the nearest second place.

a $\frac{4}{5}$ 0.8 b $\frac{1}{6}$ 0.17 c $\frac{2}{3}$ 0.67 d $\frac{7}{8}$ 0.88 e $\frac{5}{7}$ 0.71

B $\frac{1}{3} + \frac{1}{2} =$ $\frac{5}{6}$ $\frac{1}{2} - \frac{1}{6} =$ $\frac{1}{3}$ $\frac{2}{3} \times 12 =$ 8 Express as mixed numbers. $\frac{137}{10} =$ $13\frac{7}{10}$
 $\frac{1}{4} + \frac{1}{6} =$ $\frac{5}{12}$ $\frac{3}{4} - \frac{2}{3} =$ $\frac{1}{12}$ $10 \times 1\frac{2}{5} =$ 14 $93 \div 8 =$ $11\frac{5}{8}$
 $\frac{5}{8} + \frac{3}{4} =$ $1\frac{11}{8}$ $3 - 1\frac{7}{12} =$ $1\frac{5}{12}$ $1\frac{7}{10} \times 20 =$ 34 $124 \div 9 =$ $13\frac{7}{9}$
 $\frac{3}{10} + 1\frac{1}{2} =$ $1\frac{4}{5}$ $2\frac{1}{4} - 1\frac{7}{8} =$ $\frac{3}{8}$ $40 \times \frac{3}{8} =$ 15

C Write each fraction in its simplest form as a percentage.

a $\frac{12}{20}$ 60% b $\frac{28}{40}$ 70% c $\frac{45}{100}$ 45% d $\frac{24}{32}$ 75% e $\frac{30}{50}$ 60%

Write each of these scales as a fraction.

a 1mm to 20cm $\frac{1}{200}$ b 1cm to 5m $\frac{1}{500}$ c 1cm to 1km $\frac{1}{100000}$

D Fill in the table. Express the ratios as the amount given to the total amount, in their simplest form. The first example is done for you.

	fraction (simplest form)	percentage (%)	ratio
40p of 50p	$\frac{4}{5}$	80%	4:5
300g of 0.5kg	$\frac{3}{5}$	60%	3:5
700ml of 1l	$\frac{7}{10}$	70%	7:10
5p of £1	$\frac{1}{20}$	5%	1:20

	fraction (simplest form)	percentage (%)	ratio
50cm of 2m	$\frac{1}{4}$	25%	1:4
750g of 1.5kg	$\frac{1}{2}$	50%	1:2
250 of 400	$\frac{5}{8}$	62.5%	5:8
35p of £5	$\frac{7}{100}$	7%	7:100

E 8 cost £10. What fraction of £10 do

3 cost $\frac{3}{8}$ 7 cost? $\frac{7}{8}$

5 cost £7. What fraction of £7 do

2 cost $\frac{2}{5}$ 8 cost? $\frac{8}{5}$

10 cost £3.50. What fraction of £3.50 do

9 cost $\frac{9}{10}$ 15 cost? $\frac{3}{2}$

Share each quantity in the given ratio.

£30, ratio 3:2 £18 £12

1.75kg, ratio 4:1 1.4kg 350g

2m, ratio 5:3 125cm 75cm

F Find the value of

$\frac{3}{10}$ of £1.60 48p

0.75 of 600 450

60% of $\frac{1}{2}$ kg 300g

0.9 of 2l 1.8l

50% of 3m 70cm 1m 85cm

$\frac{3}{100}$ of 1kg 30g

0.95 of 10000 9500

17% of £3.00 51p

$\frac{5}{9}$ of 1.8kg. 1kg

Find the whole when

0.25 is £3.50 £14

$\frac{3}{4}$ is 57cm 76cm

10% is 850g 8.5kg

0.6 is 42p 70p

$\frac{5}{8}$ is 2.5kg 4kg

30% is 1.8l 6l

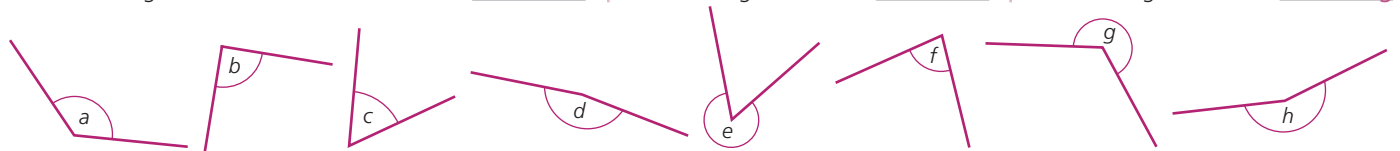
0.375 is 300 800

$\frac{7}{10}$ is 91p £1.30

5% is 200g. 4kg

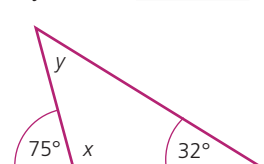
G Estimate which of the angles marked a – h is:
 an obtuse angle of 130°

a right angle b an acute angle of 80° f
 a reflex angle of 300° e a reflex angle of 240° g

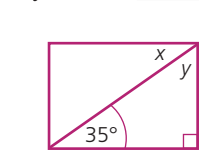


H Find the angle marked x and/or y in each shape.

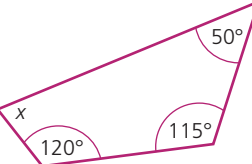
$\angle x$ 105°
 $\angle y$ 43°



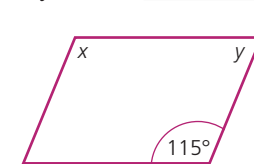
$\angle x$ 35°
 $\angle y$ 55°



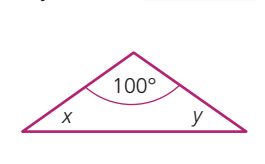
$\angle x$ 75°



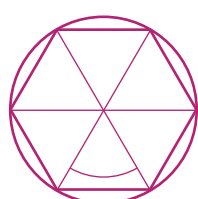
$\angle x$ 115°
 $\angle y$ 65°



$\angle x$ 40°
 $\angle y$ 40°

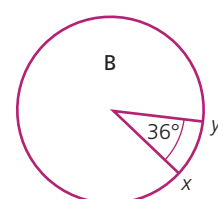
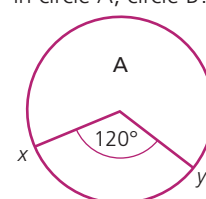


Fill in the table for regular polygons.



name of regular polygon	number of sides	angle at centre
hexagon	6	60°
octagon	8	45°
pentagon	5	72°

What fraction of the circumference is the arc xy in circle A, circle B?



A $\frac{1}{3}$
 B $\frac{1}{10}$

A Each of the shapes A to G is a quadrilateral.



Give the **letter** of the shape which is
 a a rhombus _____ **E**
 b a rectangle _____ **A**
 c a trapezium _____ **C**
 d a square _____ **D**
 e a parallelogram. _____ **G**

Write the **name** of the shape (or shapes) which has:

- four equal sides _____ **square, rhombus**
- four right angles _____ **square, rectangle**
- opposite sides equal and parallel _____ **square, rectangle, rhombus, parallelogram**
- one pair only of parallel sides _____ **trapezium**
- diagonals which are equal _____ **square, rectangle**
- diagonals which bisect each other at right angles _____ **square, rhombus**

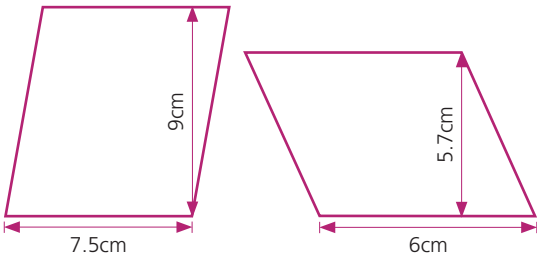
Write the **letter** of the shape or shapes which have:

- a no axis of symmetry _____ **B, C, F, G**
- b two axes of symmetry _____ **A, E**
- c four axes of symmetry _____ **D**

B Fill in the missing measurements. In each case give the unit of measurement.

Rectangles $A = lb$ $b = \frac{A}{l}$ $l = \frac{A}{b}$			
length	breadth	perimeter	area
7cm	5.5cm	25cm	38.5cm²
16cm	6cm	44cm	96cm²
10cm	8cm	36cm	80cm²
9cm	3.5cm	25cm	31.5cm ²
25m	20m	90m	500m ²

Triangles $A = \frac{bh}{2}$ $b = 2\frac{A}{h}$ $h = 2\frac{A}{b}$		
base	height	area
35mm	12mm	210mm²
27cm	18cm	243cm²
9cm	6cm	27cm ²
11cm	3cm	16.5cm ²
1.6m	9m	7.2m ²



Rhombuses and parallelograms $A = bh$ $b = \frac{A}{h}$ $h = \frac{A}{b}$					
base	7.5cm	6cm	16cm	1.5m	40cm
height	9.0cm	5.7cm	7cm	3m	15mm
area	67.5cm²	34.2cm²	112cm ²	4.5m ²	60cm²

Circles $C = \pi d$ or $2\pi r$: $\pi = 3.14$			
radius (r)	1cm	3cm	10cm
diameter (d)	2cm	6cm	20cm
circumference (c)	6.28cm	18.84cm	62.8cm

Cubes and cuboids $V = lbh$ $l = \frac{V}{bh}$ $h = \frac{V}{bl}$ $b = \frac{V}{hl}$			
length	breadth	height	volume
8cm	5cm	9cm	360cm³
20cm	20cm	20cm	8000cm³
8m	3.5m	2m	56m ³
6.4cm	10cm	5cm	320cm ³
10cm	9.3cm	2cm	186cm ³

Find the volume of each of these prisms.

