

Find the rule

The numbers in each box follow a certain rule. Each shape represents the operation or operations that need to be carried out to make the next number. For each question, find the rule and then write the missing numbers in the final box.

Example

1 ▲ 4 ● 10	3 ▲ 12 ● 18	4 ▲ 16 ● 22	6 ● 24 ▲ 30
$\times 4$ $+ 6$	$\times 4$ $+ 6$	$\times 4$ $+ 6$	$\times 4$ $+ 6$

1.	9 ■ 4 ▲ 20	12 ■ 7 ▲ 35	14 ■ 9 ▲ 45	10 ■ ____ ▲ ____
2.	7 ● 28 ★ 14	10 ● 40 ★ 20	15 ● 60 ★ 30	19 ● ____ ★ ____
3.	14 ▲ 2 ■ 6	42 ▲ 6 ■ 10	56 ▲ 8 ■ 12	28 ▲ ____ ■ ____
4.	7 ★ 11 ● 22	8 ★ 13 ● 26	12 ★ 21 ● 42	14 ★ ____ ● ____
5.	16 ■ 4 ▲ 9	24 ■ 6 ▲ 13	8 ■ 2 ▲ 5	20 ■ ____ ▲ ____
6.	14 ● 6 ★ 19	22 ● 10 ★ 31	18 ● 8 ★ 25	26 ● ____ ★ ____
7.	17 ▲ 6 ■ 3	21 ▲ 8 ■ 4	37 ▲ 16 ■ 8	29 ▲ ____ ■ ____
8.	12 ★ 9 ● 17	10 ★ 7 ● 13	18 ★ 15 ● 29	7 ★ ____ ● ____
9.	14 ■ 42 ▲ 26	6 ■ 18 ▲ 14	18 ■ 54 ▲ 32	12 ■ ____ ▲ ____
10.	4 ● 6 ★ 12	8 ● 12 ★ 18	24 ● 36 ★ 42	18 ● ____ ★ ____
11.	18 ▲ 10 ■ 6	26 ▲ 14 ■ 8	10 ▲ 6 ■ 4	34 ▲ ____ ■ ____
12.	11 ★ 37 ● 10	7 ★ 25 ● 7	15 ★ 49 ● 13	3 ★ ____ ● ____

Find the rule

1. 5, 25 ($- 5$ then $\times 5$)
2. 76, 38 ($\times 4$ then $\div 2$)
3. 4, 8 ($\div 7$ then $+ 4$)
4. 25, 50 ($\times 2$, $- 3$ then $\times 2$)
5. 5, 11 ($\div 4$ then $\times 2$, $+ 1$)
6. 12, 37 ($\div 2$, $- 1$ then $\times 3$, $+ 1$)
7. 12, 6 ($- 5$, $\div 2$ then $\div 2$)
8. 4, 7 ($- 3$ then $\times 2$, $- 1$)
9. 36, 23 ($\times 3$ then $\div 2$, $+ 5$)
10. 27, 33 ($\div 2$, $\times 3$ then $+ 6$)
11. 18, 10 ($+ 2$, $\div 2$ then $\div 2$, $+ 1$)
12. 13, 4 ($\times 3$, $+ 4$ then $+ 3$, $\div 4$)