

Introduction

Problem solving is the process of applying your mathematical knowledge to solve everyday problems or puzzles. The first task is always to understand the information given in the problem, and then to decide what mathematics is needed to solve it. In this book you will learn different ways to approach a variety of problems, puzzles and patterns.

How to use this book

Before you start using this book, write your name in the name box on the first page.

Then decide how to begin. If you want a complete course on problem solving, you should work right through the book from beginning to end. Another way to use the book is to dip into it when you want to find out about a particular topic, such as ratio problems. The Contents page will help you to find the pages you need.

Whichever way you choose, don't try to do too much at once – it's better to work through the book in short bursts.

When you have found the topic you want to study, look out for the icons below which mark different parts of the text.



This icon shows you the activities that you should complete. You write your answers in the spaces provided. You might find it useful to have some spare paper to work on for some of the activities. After you have worked through all the activities on the page, turn to pages 45–49 at the end of this book to check your answers. When you are sure that you understand the topic, put a tick in the box beside it on the Contents page.

On pages 13, 22, 28 and 35 you will find **Progress tests**. These contain questions that will check your understanding of the topics that you have worked through so far. Check your answers on page 50. It is important that you correct any mistakes before moving on to the next section.

On pages 41–44 you will find a **Final test**. This will check your understanding of all the topics. Check your answers on page 51.



This text explains the topic and gives examples. Make sure you read it before you start the activities.



This text gives you useful background information about the subject.