Alavi

# Mathematics

## Learner's Book

6


**Compiled by:**

Farahnaz Fayaz, Somayeh Babaee, Mahdieh Sepasi

and Seyedeh Farideh Saneie

# Introduction

The Primary Mathematics brings together the world-class Cambridge Primary mathematics curriculum from Cambridge International Examinations. It is an innovative combination of curriculum and resources designed to support teachers and learners to success in primary mathematics through best-practice international maths teaching and a problem-solving approach.

The Cambridge curriculum is dedicated to helping schools develop learners who are confident, responsible, reflective, innovative and engaged. To this end, the textbooks provide support based on pedagogical practice found in successful schools around the world. This series is arranged to ensure that the curriculum is covered whilst allowing teachers to use a flexible approach.

# Table of Contents

# CHAPTER 1

## What learners will learn and reinforce

The activities in this chapter give learners practice in the following topics:

| Topic | In this topic, learners will: |
|---|---|
| 1.1. Order of operations | learn which operations are carried out first. |
| 1.2. Collecting money | work out the total price on a receipt. |
| 1.3. What is an integer? | identify positive and negative integers. |
| 1.4. Comparing and ordering integers | use number lines to order integers. |
| 1.5. Time zones | investigate the time difference between two different locations. |

## Word bank

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1 | bracket | 2 | operation | 3 | add | 4 | subtract | 5 | multiply |
| 6 | divide | 7 | cent | 8 | dollar | 9 | collect | 10 | total |
| 11 | cash | 12 | change due | 13 | integer | 14 | positive | 15 | negative |
| 16 | nothing | 17 | nought | 18 | number line | 19 | compare | 20 | order |
| 21 | less than | 22 | greater than | 23 | least | 24 | greatest | 25 | time zone |
| 26 | time difference | 27 | approximately | 28 | universal time | 29 | how far ahead | 30 | how far behind |
| 31 | Greenwich Mean Time (GMT) | | | | | | | | |

# 1.1. Order of operations

**Remember**

Which operations would you use to find the answer to this question?

$18 - 6 \div 3 = ?$

We use brackets if we want certain operations carried out first.
To make sure everyone gets the same answer when evaluating an expression, we use this order of operations:

- Do the operations in brackets.
- Multiply and divide, in order, from left to right.
- Then add and subtract, in order, from left to right.

Evaluate: $16 - 14 \div 2$

$16 - (14 \div 2)$

$= 16 - 7$

$= 9$

Divide first: $14 \div 2 = 7$
Then subtract: $16 - 7 = 9$

Evaluate: $7 \times (4 + 8)$

$= 7 \times 12$

$= 84$

Do the operation in brackets first: $4 + 8 = 12$
Then multiply: $7 \times 12 = 84$

The order of operations is:
Brackets
Multiply and Divide
Add and Subtract

1. Evaluate each expression.
Use the order of operations.

a) $18 + 4 \times 2$ b) $25 - 12 \div 3$ c) $24 + 36 \div 9$

d) $12 - 8 - 4$ e) $50 - 7 \times 6$ f) $7 \times (2 + 9)$

g) $81 \div 9 - 6$ h) $25 \div (9 - 4)$ i) $13 - 6 + 8$

j) $(9 + 6) \div 3$ k) $19 + 56 \div 8$ l) $8 \times (12 - 5)$

2. Copy each number sentence.
Use brackets to make each number sentence true.

a) $36 \div 4 \times 3 = 3$

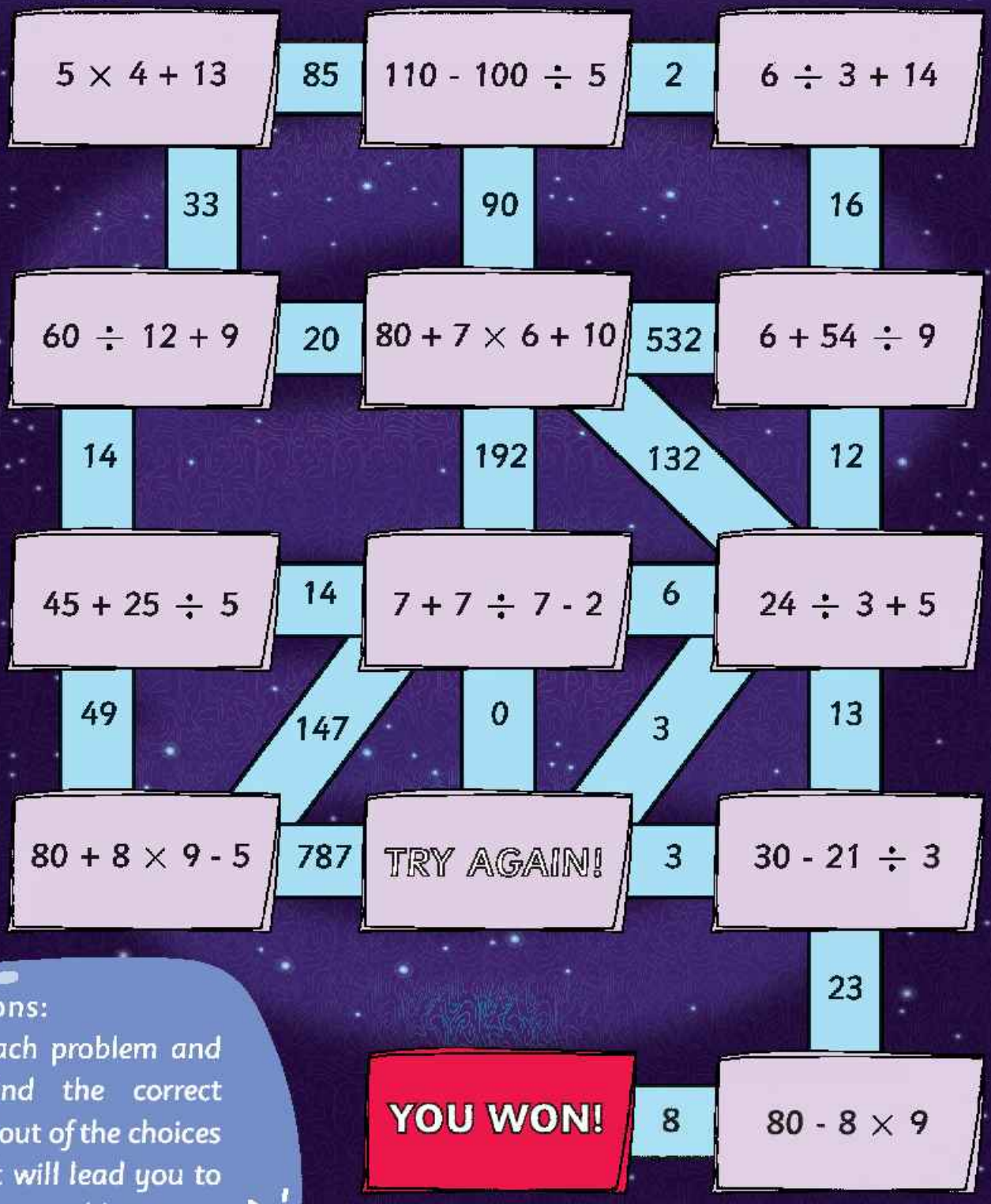
b) $20 \div 5 \times 2 + 3 = 5$

c) $10 - 4 \div 2 - 1 = 6$

d) $6 \times 2 + 8 \div 4 = 15$

3. Monsieur Lefèvre bought 2 boxes of fruit bars for his 3 children.
Each box has 6 fruit bars.
The children shared the fruit bars equally.
How many fruit bars did each child get?
Write an expression to show the order of operations you used.

START




Directions:
Solve each problem and then find the correct answer out of the choices given. It will lead you to the next problem you need to solve.

## 1.2. Collecting money

**Remember**

There are 100 cents in every dollar.

This is a game for two players.

Place all the money in the bank.

Each put your counter at the beginning of the track.

Take turns to roll the dice and move that number of spaces.

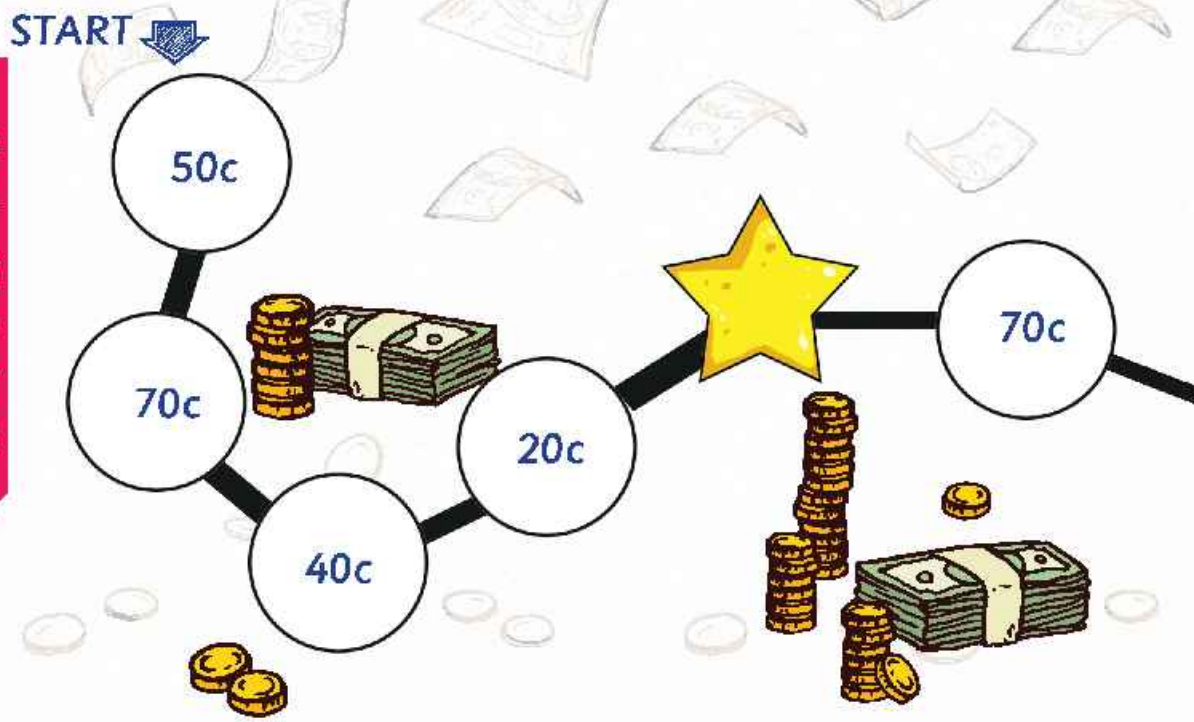
If you land on an amount of money, take that amount from the bank.

If you land on a star, take a dollar from the bank.

When you have collected 100 cents, exchange them for a dollar from the bank.

The winner is the player with more money at the end of the track.

You will need:
a collection of 10-cent; 50-cent and dollar coins or notes, a 1-6 dice, a tray or dish to use as a bank.



How much money did you collect?

Player 1 I collected $ ..... and ..... cents.

Player 2 I collected $ ..... and ..... cents.

Hint: put 10 cent coins in piles of 10 to make a dollar. Two 50-cent coins make a dollar.