# Class-shop modeling — designed by pupils

MODULE 9 · MATHEMATICAL MODELING AND END-OF-YEAR REVIEW REVIEW

### HOW TO ANSWER TODAY

- **Sale price.** Find the discount (percent of price). Subtract from the original price.
  €60, 20% off → 20% of €60 = €12 → €60 − €12 = €48
- **Fraction of a quantity.** Divide the quantity by the bottom number (denominator). Multiply by the top number (numerator).
  3/5 of 20 → 20 ÷ 5 = 4, × 3 = 12
- **Discount / increase.** Work out the percent of the price, then take it off (discount) or add it on (increase).
  €80 with 15% off → 15% of €80 = €12 → €80 − €12 = €68

## WARM-UP

**Design your class shop with 6 items and a €50 starting float. Choose prices, predict daily takings, then check whether you'll make a profit at the end of the day.**

| | Stock cost (€) | Sale price (€) |
|---|---|---|
| a. Item 1 — _____ | | |
| b. Item 2 — _____ | | |
| c. Item 3 — _____ | | |
| d. Item 4 — _____ | | |
| e. Item 5 — _____ | | |
| f. Item 6 — _____ | | |
| g. Total stock cost | | |
| h. Predicted takings (28 × avg) | | |
| i. Predicted profit = takings − stock | | |

## PRACTICE

1. 5th class have **80** library books to bring back to the school library across the term. On the school-bag rota, Tadhg agrees to carry **1/10** of the books in his schoolbag this week. How many books does Tadhg carry?

   > What is 1/10 of 80?

2. Mr Ó Briain runs a daily question for 5th class each morning. The ratio of pupils who get it right to pupils who get it wrong is **1:2**. On Friday, **5** pupils got it right. If the ratio stays the same, how many got it wrong?

   > Fill in the missing number to make equivalent ratios: 1:2 = 5:?