

# Ratio and proportion problem-solving

MODULE 4 · RATIO AND PROPORTION NUMBER

Ratio problems usually come down to finding the **value of one part or one item**, then scaling to what's asked.



→ Draw a bar split into parts to picture the shares before you calculate.

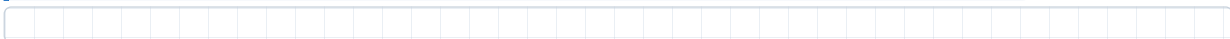
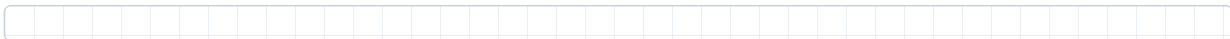
## HOW TO ANSWER TODAY

- **Equivalent fractions.** Whatever you multiply (or divide) the bottom by, do the same to the top.  
 $2/5 = ?/15$ . Bottom  $\times 3$ , so top  $\times 3 \rightarrow 6/15$
- **Compare fractions.** Make the bottom numbers (denominators) the same first. Then compare the top numbers.  
 $1/4$  and  $1/3 \rightarrow 3/12$  and  $4/12 \rightarrow 1/4 < 1/3$
- **Fraction of a quantity.** Divide the quantity by the bottom number (denominator). Multiply by the top number (numerator).  
 $3/5$  of 20  $\rightarrow 20 \div 5 = 4$ ,  $\times 3 = 12$

## WARM-UP

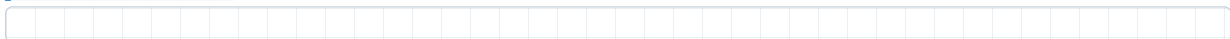
- In the art-and-maths lesson, 5th class are drawing treasure maps and buying gold-foil sticker packs at the school shop. **2** packs cost **€10** in total. Using the unitary method, what do **7** packs cost?  
 If 2 identical items cost €10, what do 7 items cost (use the unitary method)?
- Mr Ó Briain is sorting worksheets in the photocopier room and notices that **2/3** of one stack matches the same share as a missing number out of **12** in the next stack. Fill in the missing number: **2/3** = ?/**12**.  
 Fill in the missing number:  $2/3 = ?/12$

## PRACTICE

- The class library has **7** shelves of equal size for the reading scheme books. This week, **5** of the shelves are full and the rest are empty because the books are out on loan. What fraction of the shelves are full?  
 A shape is divided into 7 equal parts and 5 are shaded. What fraction of the shape is shaded?  

- Three pupils in 5th class fill their water bottles before going out to the yard. Oisín fills **3/4** of his bottle, Aoife fills **7/12** of hers, and Tadhg fills **1/12** of his. Order the bottles from smallest amount to largest amount of water.  


## CHALLENGE

- 120** pupils take part in the after-school Camogie training session under the floodlights. **3/5** of the pupils are from 5th class and the rest are from 6th class. How many pupils are from 5th class?  
 What is  $3/5$  of 120?  

- 5th class are making **95** sandwiches for their school picnic at the Cliffs of Moher. **3/5** of the sandwiches are ham and cheese. How many ham and cheese sandwiches are there?  
 What is  $3/5$  of 95?  


## REFLECT

When is a ratio more useful than a fraction for describing a situation?