

RATIOS AND SCALES

MNU 3 08 - a

I can show how quantities that are related can be increased or decreased proportionally and apply this to solve problems in everyday contexts.

Pupils should be able to:

- Interpret simple ratios $a : b$.
- Understand the idea of equivalent ratios.
- Express a ratio in simplest form.
- Find ratios between quantities
- Use simple ratios in calculations
eg " boys : girls = 1 : 2. 6 boys, how many girls?"
- Interpret plans or maps using scales given in the form 1 cm to 5 m or as a ratio eg 1 : 200.
- Calculate actual distances or map distances using given scales.
- Use proportional division, eg "divide £60 in the ratio 2:1"

PUPILS SHOULD COMPLETE THE FOLLOWING EXERCISE AND ASSESS THEIR PROGRESS BY TICKING ONE OF THE OPTIONS FOR EACH TOPIC IN THE TABLE BELOW

	DEVELOPING	CONSOLIDATING	SECURE
Express numbers as a ratio (QUESTION 1)			
Simplify ratios (QUESTIONS 2 - 4)			
Use ratios in calculations (QUESTIONS 4 - 5)			
Use proportional division (QUESTION 6)			
Use map scales to calculate actual distance (QUESTION 7)			

Mymaths lessons: library/number/ratio & proportion/ratio introduction

Library/number/ratio & proportion/ratio 1 & 2

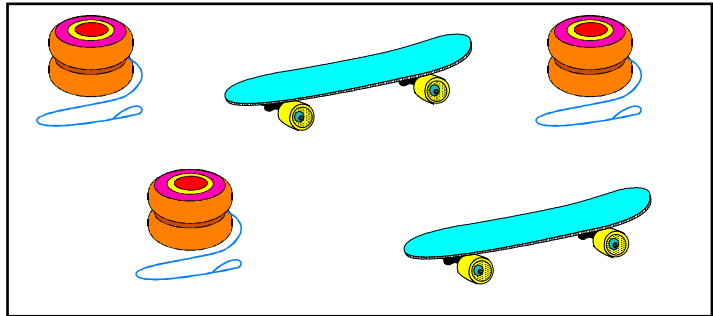
Library/shape/scale & similarity/scale drawing

Library/shape/scale & similarity/map scales

SELF EVALUATION EXERCISE

DATE DUE

1. Write down the ratio of
(a) skateboards : yoyos
(b) yoyos : skateboards



2. Simplify each of the following ratios

(a) $2 : 10$ (b) $24 : 6$ (c) $20 : 25$

3. On a small desert island there are 6 palm trees and 16 monkeys.
Write, in the **simplest form**, the ratio of palm trees : monkeys



4. Jamie gets £2.50 pocket money, whilst his little sister Susie gets £1.50.
(a) Write the ratio of Jamie's pocket money to Susie's pocket money in **simplest form**.
(b) If Jamie's pocket money increases to £5.00, how much will Susie get?
5. In a box of truffles the ratio of milk chocolate to dark chocolate is 3: 2.
(a) If your box contains 6 dark chocolates how many milk chocolates will you find?
(b) If a larger box contains 15 milk chocolate truffles, how many truffles are in the whole box?
6. Jai and Lucy agree to split any lotto winnings in a ratio of $2 : 3$.
(a) If they win £100, how much will Jai receive?
(b) If they only win £20, how much will Lucy receive?

7. On the Ordnance Survey map of London, Westminster the scale is given as 1 : 10 000

So 1cm on the map is 10 000 cm on the ground (or 100 metres)
10 cm on the map is 100 000cm on the ground or 1 kilometre

Measure the length of Westminster Bridge on the map, and use this to calculate the actual distance you would walk if you crossed this bridge?

