A4 *Ratio and Proportion* Data Sheets

Data Sheets

Data Sheet A4.1

Simplifying Ratios

Simplify the following ratios:

(a) 4 : 8 = 1 : ☐

(b) 5 : 20 = 1 : ☐

(c) 9 : 45 = ☐ : ☐

(d) 25 : 40 = ☐ : ☐

(e) 8 : 36 = ☐ : ☐

(f) 6 : 21 = ☐ : ☐

(g) 11 : 44 = ☐ : ☐

Data Sheet A4.2 *Simple Ratios*

A) A class consists of 12 girls and 20 boys.

What is the ratio, in simplest form, of

(a) girls to boys, (b) boys to girls?

(a) Girls to boys $= 12 : 20$

$= 3 : \square$

(b) Boys to girls $= 20 : 12$

$= \square : \square$

B) A football team played 60 matches. They **won** 18, **lost** 20 and the rest were **draws**. Find the ratios of

(a) number of matches won to number drawn,

(b) number of matches won to total number played,

(c) number of matches lost to number of matches won.

(a) No. of matches won : no. matches drawn

$= 18 : 60 - (18 + 20)$

$= 18 : \square$

$= \square : \square$

(b) No. of matches won : no. matches played

$= 18 : \square$

$= \square : \square$

(b) No. of matches lost : no. matches won

$= \square : \square$

$= \square : \square$

Data Sheet A4.3

Proportion and Ratio

To make a fruit drink, you mix **orange juice** and **pineapple juice** in the ratio 5 : 8.

A) How much pineapple juice would be mixed with 500 cm^3 of orange juice?

Ratio of orange juice : pineapple juice = 5 : 8

= 1 : ☐

So for every 1 cm^3 of orange juice, you need ☐ cm^3 of pineapple juice.

For 500 cm^3 of orange juice, the amount of pineapple juice needed is

500 cm^3 × ☐ = ☐ cm^3

B) How much orange juice would be needed with 500 cm^3 pineapple juice?

Ratio of pineapple : to orange juice = 8 : 5

= 1 : ☐

So for every 1 cm^3 of pineapple juice, you need ☐ cm^3 of orange juice.

For 500 cm^3 of pineapple juice, the amount of orange juice needed is

500 cm^3 × ☐ = ☐ cm^3

Data Sheet A4.4 *Map Ratios*

A map of the Caribbean is drawn with a scale of 1 : 200 000.

A) Calculate the actual distance, in km, that the following lengths on the map represent.

(a) **1 cm**

1 cm on map : $1 \times 200\,000$ cm distance

: ☐ m

: ☐ km

(b) **20 cm**

20 cm on map : ☐ × ☐ cm distance

: ☐ cm

: ☐ m

: ☐ km

B) The actual distance between two places, Kingston, Jamaica and George Town in the Cayman Islands, is 500 km.

What is the distance between these two places on the map?

500 km : $\frac{500}{200\,000}$ km on map

: $\frac{500}{200\,000} \times$ ☐ m

: $\frac{500}{200\,000} \times$ ☐ × ☐ cm

: ☐ cm

Data Sheet A4.5

Proportional Division 1

A) Divide £70 between Marlon and Jenni in the ratio 9 : 5.

$9 + 5 =$ ☐

So divide £70 into ☐ equal parts.

£70 ÷ ☐ = ☐

Marlon's share is 9 × ☐ = ☐

Jenni's share is 5 × ☐ = ☐

B) Misha, Sharon and Lloyd have 90 sweets. They decide to divide them in the ratio of their ages, which are 2 years, 7 years and 9 years.

$2 + 7 + 9 =$ ☐

So divide 90 into ☐ equal parts.

90 ÷ ☐ = ☐

Misha's share is 2 × ☐ = ☐

Sharon's share is 7 × ☐ = ☐

Lloyd's share is 9 × ☐ = ☐

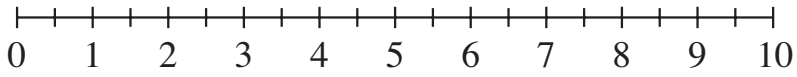
Data Sheet A4.6

Proportional Division 2

A) The line below measures 10 units.

Divide it in the ratio

(a) 7 : 3 (b) 4 : 1 (c) 3 : 2 (d) 3 : 1



B) The line below measures 15 units.

Divide it in the ratio

(a) 4 : 1 (b) 8 : 7 (c) 3 : 2 (d) 2 : 1