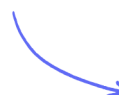


Working with Ratios

Ratios / Problem Solving with Ratios / Working with Proportion

Easy (3 questions)	/7
Medium (5 questions)	/15
Hard (3 questions)	/15
Total Marks	/37

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Easy Questions

- 1 For a morning flight, the costs of tickets are in the ratio

First Class : Premium : Economy = 14 : 6 : 5.

The cost of a Premium ticket is \$114.

Calculate the cost of a First Class ticket and the cost of an Economy ticket.

First Class \$

Economy \$

(3 marks)

- 2 In a cycling club, the number of members are in the ratio males : females = 8 : 3. The club has 342 females.

i) Find the total number of members.

[2]

ii) Find the percentage of the total number of members that are female.

..... % [1]

(3 marks)

- 3 The fares for a train journey are shown in the table below.

From London to Marseille	Standard fare	Premier fare
Adult	\$84	\$140
Child	\$60	\$96

For the **standard fare**, write the ratio adult fare : child fare in its simplest form.

..... :

(1 mark)

Medium Questions

- 1 The table shows the surface area of some countries and their estimated population in 2017.

Country	Surface area (km ²)	Estimated population in 2017
Brunei	5.77×10^3	433 100
China	9.60×10^6	1 388 000 000
France	6.41×10^5	67 000 000
Maldives	3.00×10^2	374 600

The ratio surface area of the Maldives : surface area of China can be written in the form $1 : n$.

Find the value of n .

$n =$

(2 marks)

- 2 (a) Mohsin has 600 pear trees and 720 apple trees on his farm.

Write the ratio pear trees : apple trees in its simplest form.

..... :

(1 mark)

- (b) One week, the total mass of pears picked was 18 540 kg.
For this week, the ratio mass of apples : mass of pears = 13 : 9.

Find the mass of apples picked that week.

..... kg

(2 marks)

- 3 Amol and Priya deliver 645 parcels in the ratio Amol : Priya = 11 : 4.
Calculate the number of parcels Amol delivers.

(2 marks)

- 4 A school has 240 students. The ratio girls : boys = 25 : 23.

i) Show that the number of boys is 115.

[1]

ii) One day, there are 15 girls absent and 15 boys absent.

Find the ratio girls : boys in school on this day.

Give your answer in its simplest form.

..... : [2]

(3 marks)

5 Here is a list of ingredients to make 20 biscuits.

260 g of butter
500 g of sugar
650 g of flour
425 g of rice

i) Find the mass of butter needed to make 35 of these biscuits.

..... g [2]

ii) Michel has 2 kg of each ingredient.

Work out the greatest number of these biscuits that he can make.

[3]

(5 marks)

Hard Questions

1 Arjun and Gretal each pay rent.

In 2018, the ratio of the amount each paid in rent was Arjun : Gretal = 5 : 7.
In 2019, the ratio of the amount each paid in rent was Arjun : Gretal = 9 : 13.

Arjun paid the same amount of rent in both 2018 and 2019.
Gretal paid \$290 more rent in 2019 than she did in 2018.

Work out the amount Arjun paid in rent in 2019.

\$

(4 marks)

2 The fares for a train journey are shown in the table below.

From London to Marseille	Standard fare	Premier fare
Adult	\$84	\$140
Child	\$60	\$96

For one journey from London to Marseille, the ratio

number of adults : number of children = 11 : 2.

There were 220 adults in total on this journey.
All of the children and 70% of the adults paid the standard fare. The remaining adults

paid the premier fare.

Calculate the total of the fares paid by the adults and the children.

\$

(5 marks)

3 Some people who work for a company are in the following age groups.

Group A	Group B	Group C
Under 30 years	30 to 50 years	Over 50 years

The ratio of the number in group A to the number in group B is 7 : 10.

The ratio of the number in group B to the number in group C is 4 : 3.

i) Find the ratio of the number in group A to the number in group C.

Give your answer in its simplest form.

..... : [3]

ii) There are 45 people in group C.

Find the total number of people who work for the company.

[3]

(6 marks)