

# Ratio Problem Solving

## Question Paper

Course	Edexcel IGCSE Maths
Section	1. Numbers & the Number System
Topic	Ratio Problem Solving
Difficulty	Hard

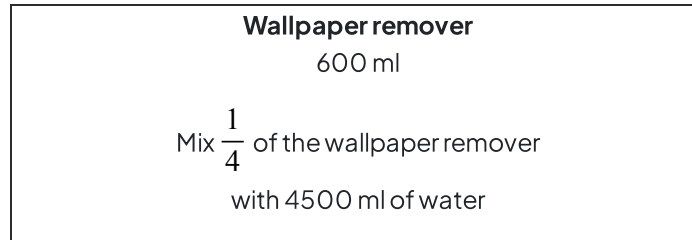
**Time allowed:** 70  
**Score:** /53  
**Percentage:** /100

### Question 1

Suha has a full 600 ml bottle of wallpaper remover.

She is going to mix some of the wallpaper remover with water.

Here is the information on the label of the bottle.



Suha is going to use 750 ml of water.

How many millilitres of wallpaper remover should Suha use?

You must show your working.

[4 marks]

### Question 2

In a company, the ratio of the number of men to the number of women is 3 : 2

40% of the men are under the age of 25

10% of the women are under the age of 25

What percentage of all the people in the company are under the age of 25?

[4 marks]

### **Question 3**

Kiaria is 7 years older than Jay.

Martha is twice as old as Kiaria.

The sum of their three ages is 77

Find the ratio of Jay's age to Kiaria's age to Martha's age.

**[4 marks]**

### **Question 4**

There are only blue pens, green pens and red pens in a box.

The ratio of the number of blue pens to the number of green pens is 2 : 5

The ratio of the number of green pens to the number of red pens is 4 : 1

There are less than 100 pens in the box.

What is the greatest possible number of red pens in the box?

**[3 marks]**

### **Question 5**

On a farm

the number of cows and the number of sheep are in the ratio 6 : 5

the number of sheep and the number of pigs are in the ratio 2 : 1

The total number of cows, sheep and pigs on the farm is 189

How many sheep are there on the farm?

**[3 marks]**

### **Question 6**

£360 is shared between Abby, Ben, Chloe and Denesh.

The ratio of the amount Abby gets to the amount Ben gets is 2 : 7

Chloe and Denesh each get 1.5 times the amount Abby gets.

Work out the amount of money that Ben gets.

**[4 marks]**

### Question 7

On a farm there are chickens, ducks and pigs.

The ratio of the number of chickens to the number of ducks is 7 : 2

The ratio of the number of ducks to the number of pigs is 5 : 9

There are 36 pigs on the farm.

Work out the number of chickens on the farm.

[3 marks]

### Question 8

Pieter owns a currency conversion shop.

Last Monday, Pieter changed a total of 20160 rand into a number of different currencies.

He changed  $\frac{3}{10}$  of the 20 160 rand into euros.

He changed the rest of the rands into dollars, rupees and francs in the ratios 9 : 5 : 2

Pieter changed more rands into dollars than he changed into francs.

Work out how many more.

[4 marks]

### Question 9

In a bag there are blue discs, green discs and white discs.

There are four times as many blue discs as green discs.

number of blue discs : number of white discs = 3 : 5

One disc is selected at random.

Work out the probability that the disc is either blue or white.

[3 marks]

### Question 10

$e : f = 2 : 3$  and  $f : g = 5 : 4$

Work out  $e : g$

Give your answer in its simplest form.

[3 marks]

### Question 11

A bag contains some counters.

- There are 300 counters in the bag.
- There are only red, white and blue counters in the bag.
- The probability of picking a blue counter is  $\frac{23}{50}$
- The ratio of red counters to white counters is 2 : 1.

Calculate the number of red counters in the bag.

[4 marks]

### Question 12

In a school,  $\frac{2}{3}$  of the students study a language.

Of those students who study a language,  $\frac{2}{5}$  study Spanish.

Find the ratio of students who study Spanish to students who do not study Spanish.

[3 marks]

### Question 13a

The population of a village is in the following ratios.

- men : children = 11 : 3
- women : children = 5 : 2

Find the ratio men : women.

Give your answer in its simplest form.

[2 marks]

### Question 13b

There are 36 children in the village.

Find the total population of the village.

[3 marks]

### Question 14

In a village the ratio of males to females is 2:1.

40% of the people in the village are right-handed males.

25% of the people in the village are right-handed females.

Show that the proportion of females who are right-handed is greater than the proportion of males who are right-handed.

[6 marks]



