



EXAM PAPERS PRACTICE

Ratios

Question Paper



Question 1

The ratios of teachers : male students : female students in a school are 2 : 17 : 18. The total number of **students** is 665.
Find the number of **teachers**.

[2]

Question 2

The scale on a map is 1 : 50 000.
The area of a field on the map is 1.2 square centimetres.

[2]

Calculate the actual area of the field in square kilometres.



Question 3

The volume of a child's model plane is 1200cm^3 .
The volume of the full size plane is 4050m^3 .

[3]

Find the scale of the model in the form $1:n$.

Question 4

A model of a ship is made to a scale of $1:200$.
The surface area of the model is 7500cm^2 .

[3]

Calculate the surface area of the ship, giving your answer in square metres.



Question 5

The scale of a map is 1 : 500 000 .

- (a) The actual distance between two towns is 172 km. [2]
Calculate the distance, in centimetres, between the towns on the map.

- (b) The area of a lake on the map is 12 cm^2 [2]
Calculate the actual area of the lake in km^2 .



Question 6

A car company sells a scale model $\frac{1}{10}$ of the size of one of its cars.

Complete the following table.

	Scale Model	Real Car
Area of windscreen (cm ²)	135	
Volume of storage space (cm ³)		408000

[3]



Question 7

A model of a car is made to a scale of 1 : 40.
The volume of the model is 45 cm^3 .
Calculate the volume of the car.
Give your answer in m^3 .

[3]

Question 8

A company makes two models of television.
Model *A* has a rectangular screen that measures 44 cm by 32 cm.
Model *B* has a larger screen with these measurements increased in the ratio 5:4.

[2]

(a) Work out the measurements of the larger screen.

(b) Find the **fraction** $\frac{\text{model } A \text{ screen area}}{\text{model } B \text{ screen area}}$ in its simplest form.

[1]



Question 9

A map is drawn to a scale of 1 : 1000 000.
A forest on the map has an area of 4.6 cm^2 .

[2]

Calculate the actual area of the forest in square kilometres.



Question 10

Ralf and Susie share \$57 in the ratio 2 : 1.

(a) Calculate the amount Ralf receives.

[2]

(b) Ralf gives \$2 to Susie.

[2]

Calculate the new ratio Ralf's money : Susie's money.
Give your answer in its simplest form.

Question 11

Pip and Ali share \$785 in the ratio Pip : Ali = 4 : 1.

[2]

Work out Pip's share.

Question 12

Ahmed and Babar share 240 g of sweets in the ratio 7:3.

Calculate the amount Ahmed receives.

[2]

Question 13

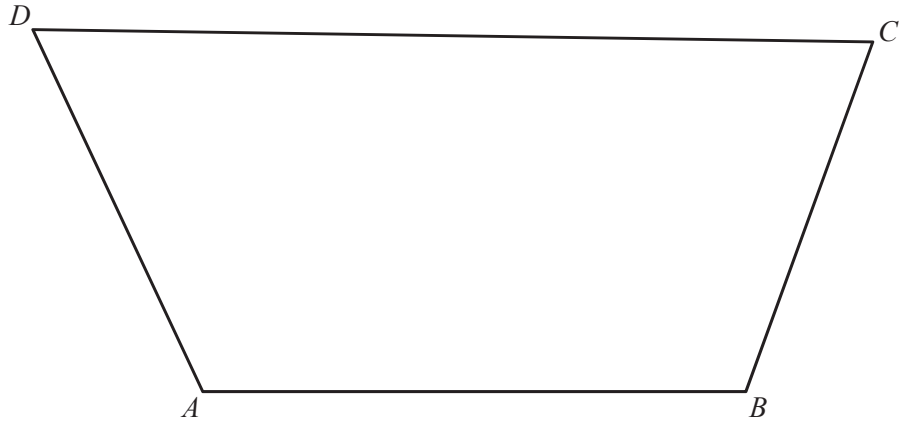
Ahmed, Batuk and Chand share \$1000 in the ratio 8:7:5.

Calculate the amount each receives.

[3]

Question 14

The diagram shows the plan, $ABCD$, of a park.
The scale is 1 centimetre represents 20 metres.



Scale: 1 cm to 20 m

(a) Find the actual distance BC .

[2]

Question 15

Hans draws a plan of a field using a scale of 1 centimetre to represent 15 metres.
The actual area of the field is $10\,800\text{m}^2$.

Calculate the area of the field on the plan.

[2]

Question 16

Pedro and Eva do their homework.
Pedro takes 84 minutes to do his homework.

The ratio Pedro's time : Eva's time = 7 : 6.

[2]

Work out the number of minutes Eva takes to do her homework.

Question 17

Jamie needs 300 g of flour to make 20 cakes.

How much flour does he need to make 12 cakes?

[2]

Question 18

Martha divides \$240 between spending and saving in the ratio

$$\text{spending} : \text{saving} = 7 : 8.$$

Calculate the amount Martha has for spending.

[2]

Question 19

The scale on a map is 1: 20 000.

- (a) Calculate the actual distance between two points which are 2.7 cm apart on the map.
Give your answer in kilometres.

[2]

- (b) A field has an area of $64\,400\text{ m}^2$.
Calculate the area of the field on the map in cm^2 .

[2]

Question 20

The scale of a map is 1 : 250 000.

- (a) The actual distance between two cities is 80 km.

Calculate this distance on the map. Give your answer in centimetres. [2]

- (b) On the map a large forest has an area of 6 cm^2 .

Calculate the actual area of the forest. Give your answer in square kilometres. [2]