

Ratios (inc Scales)

Question Paper 1

Level	IGCSE
Subject	Maths (0580)
Exam Board	Cambridge International Examinations (CIE)
Paper Type	Extended
Topic	Number
Sub-Topic	Ratios (inc Scales)
Booklet	Question Paper 1

Time Allowed: 64 minutes

Score: /52

Percentage: /100

Grade Boundaries:

A*	A	B	C	D	E	U
>85%	75%	60%	45%	35%	25%	<25%

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

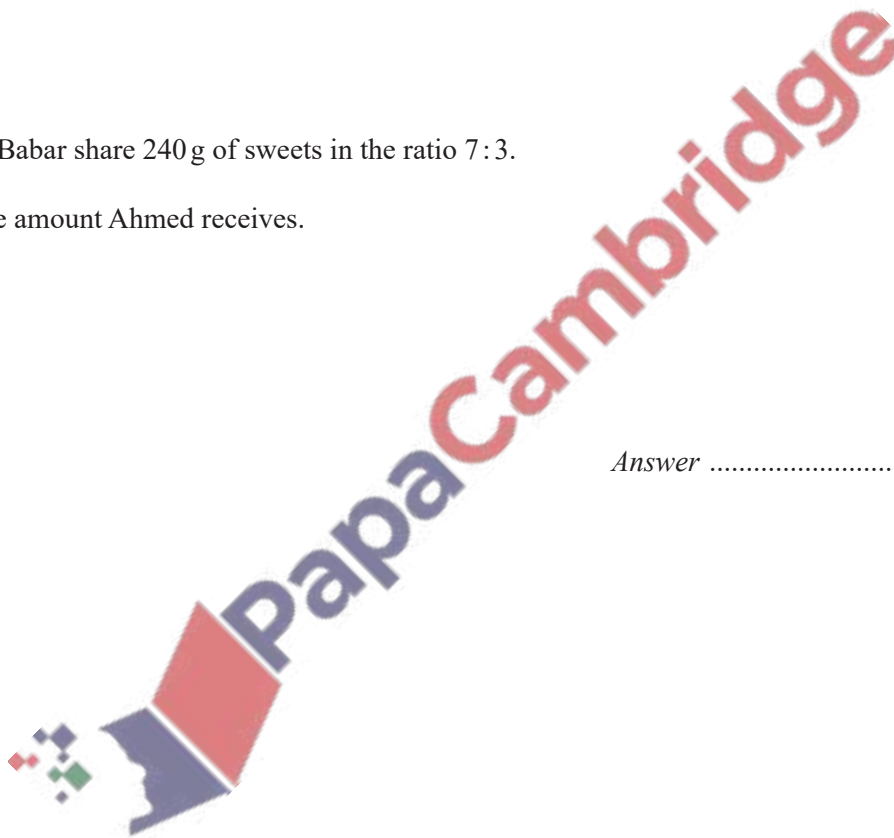
Calculate the actual area of the forest in square kilometres.

..... km^2 [2]

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

Calculate the amount Ahmed receives.

Answer g [2]



3 A football club sells tickets at different prices dependent on age group.

(a) (i) At one game, the club sold tickets in the ratio

$$\text{under 18} : \text{18 to 60} : \text{over 60} = 2 : 7 : 3.$$

There were 6100 tickets sold for people aged under 18.

Calculate the **total** number of tickets sold for the game.

..... [3]

(ii) Calculate the percentage of tickets sold for people aged under 18.

.....% [1]

(b) The table shows the football ticket prices for the different age groups.

Age	Price
Under 18	\$15
18 to 60	\$35
Over 60	\$18

At a **different** game there were 42 600 tickets sold.

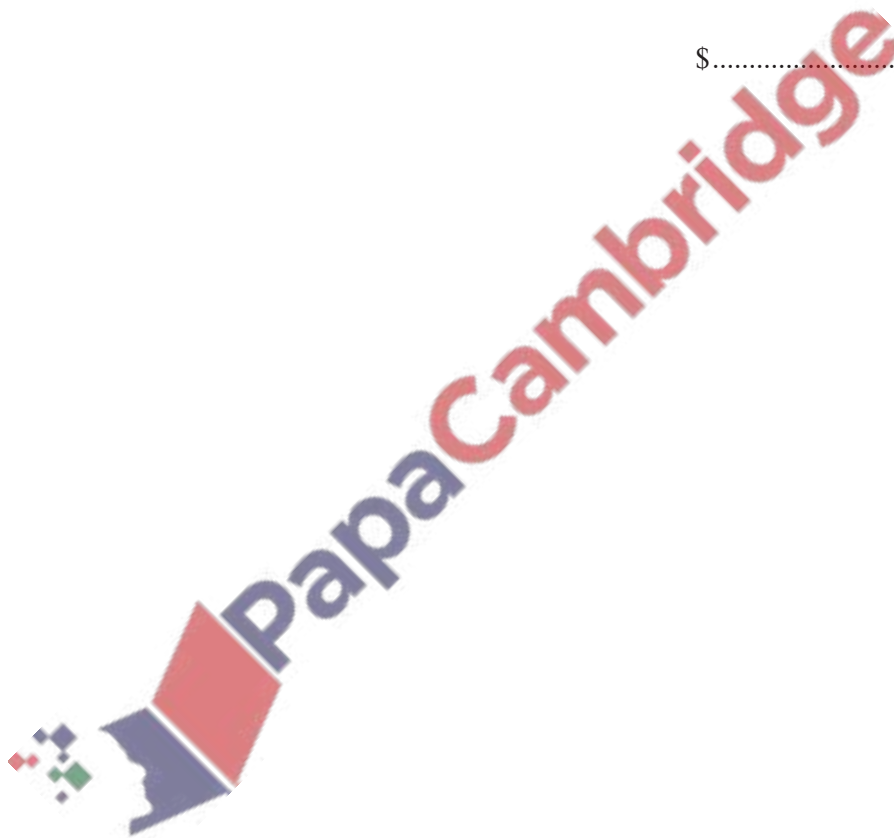
- 14% were sold to people aged under 18
- $\frac{2}{3}$ of the tickets were sold to people aged 18 to 60
- The remainder were sold to people aged over 60

Calculate the total amount the football club receives from ticket sales for this game.

- (c) In a sale, the football club shop reduced the price of the football shirts to \$23.80 .
An error was made when working out this sale price.
The price was reduced by 30% instead of 20%.

Calculate the correct sale price for the football shirt.

\$..... [5]



- 4 (a) Last year a golf club charged \$1650 for a family membership.
This year the cost increased by 12%.

Calculate the cost of a family membership this year.

Answer(a) \$ [2]

- (b) The golf club runs a competition.
The total prize money is shared in the ratio 1st prize : 2nd prize = 9 : 5.
The 1st prize is \$500 more than the 2nd prize.

- (i) Calculate the total prize money for the competition.

Answer(b)(i) \$ [2]

- (ii) What percentage of the total prize money is given as the 1st prize?

Answer(b)(ii)% [1]

- (c) For the members of the golf club the ratio men : children = 11 : 2.
The ratio women : children = 10 : 3.

- (i) Find the ratio men : women.

Answer(c)(i) : [2]

(ii) The golf club has 24 members who are children.

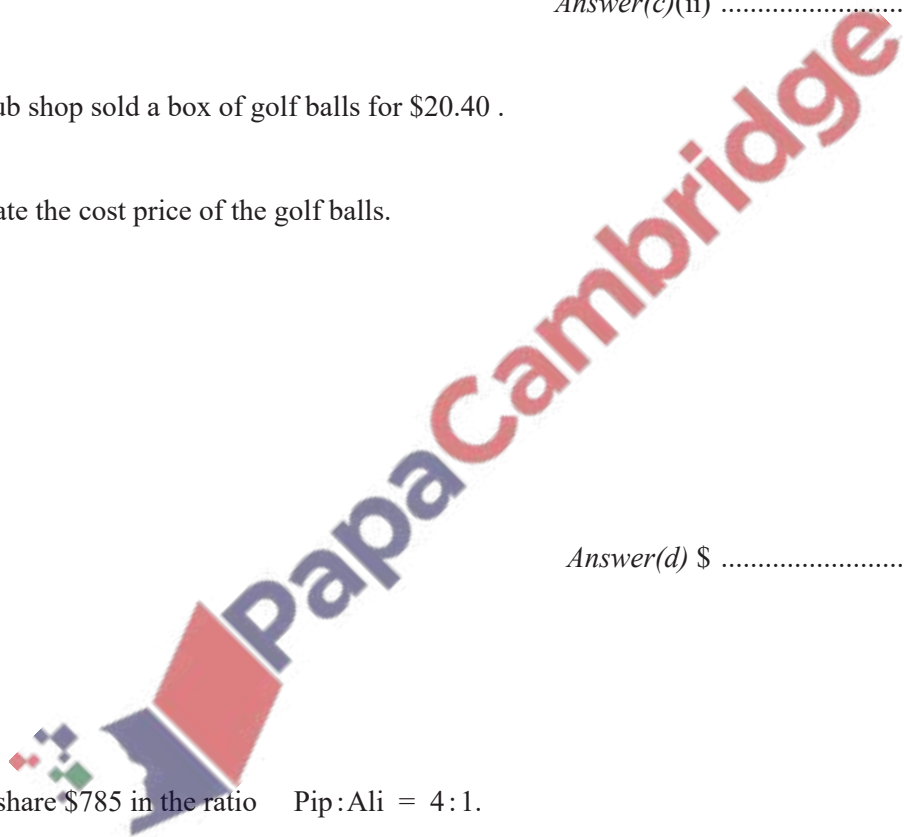
Find the total number of members.

Answer(c)(ii) [3]

(d) The club shop sold a box of golf balls for \$20.40 .

Calculate the cost price of the golf balls.

Answer(d) \$ [3]



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

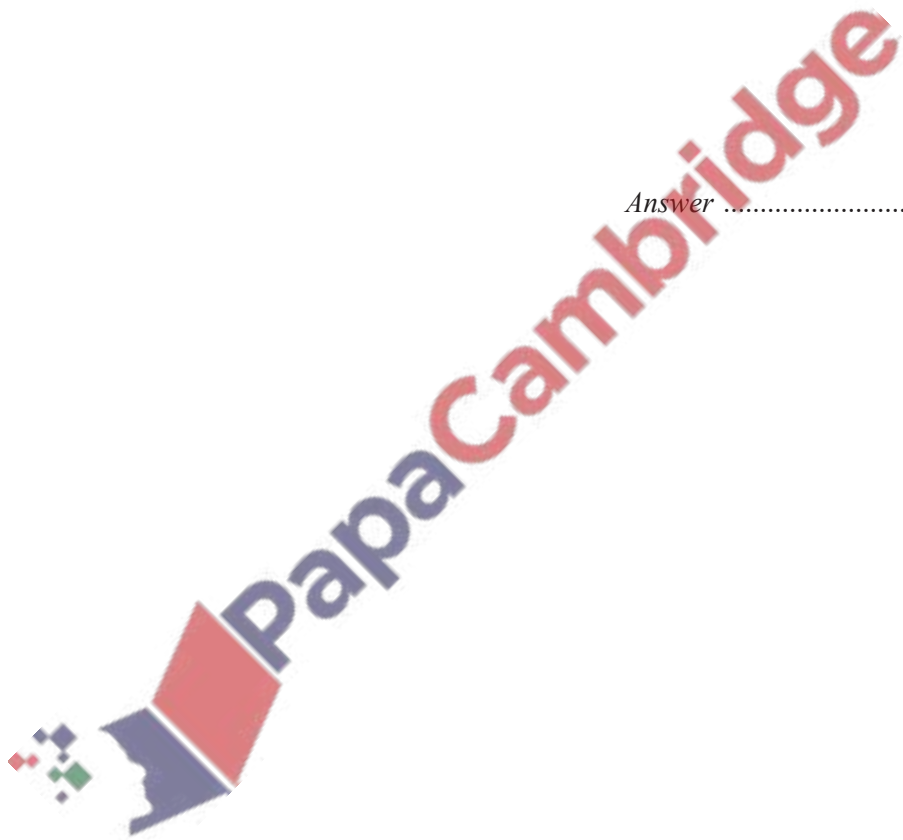
Work out Pip's share.

Answer \$ [2]

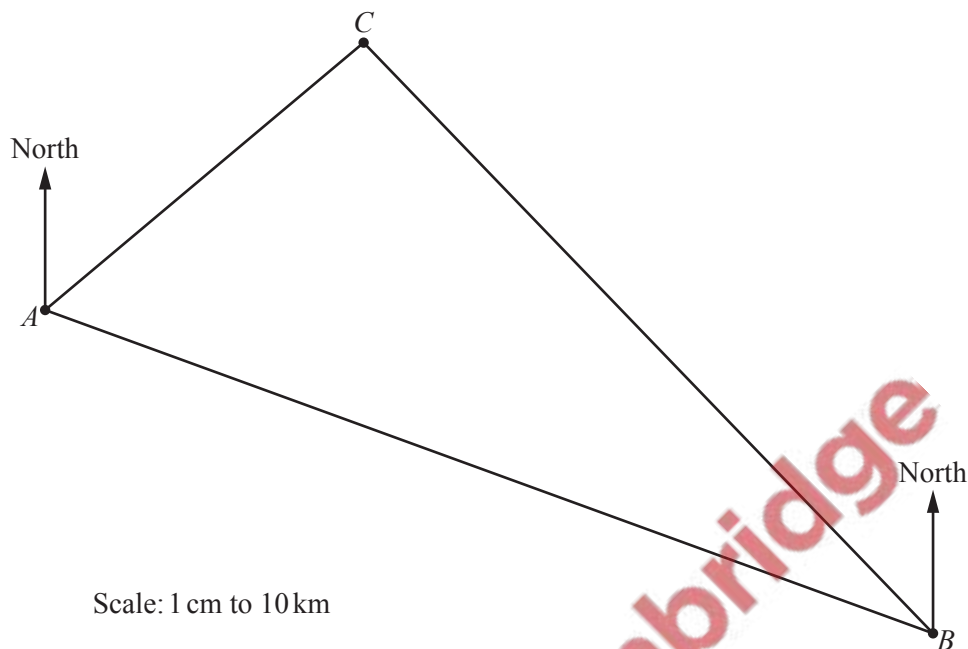
- 6 The scale on a map is 1 : 50 000.
The area of a field on the map is 1.2 square centimetres.

Calculate the actual area of the field in square kilometres.

Answer km² [2]



- 7 The scale drawing shows the positions of three towns A , B and C on a map. The scale of the map is 1 centimetre represents 10 kilometres.



- (a) Find the actual distance AB .

Answer(a) km [1]

- (b) Measure the bearing of A from B .

Answer(b) [1]

- (c) Write the scale 1 cm to 10 km in the form $1 : n$.

Answer(c) 1 : [1]

- (d) A national park lies **inside** the triangle ABC . The four boundaries of the national park are

- equidistant from C and B
- equidistant from AC and CB
- 15 km from CB
- along AB .

On the scale drawing, shade the region which represents the national park.

Leave in your construction arcs.

[7]

- (e) On the scale drawing, a lake inside the national park has area 0.4 cm^2 .

Calculate the actual area of the lake.

Answer(e) km^2 [2]

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

Calculate the amount each receives.

Answer Ahmed \$

Batuk \$

Chand \$ [3]

9 On a mountain, the temperature decreases by 6.5°C for every 1000 metres increase in height.
At 2000 metres the temperature is 10°C .

Find the temperature at 6000 metres.

Answer $^{\circ}\text{C}$ [2]

