AQA-F | Summer '25 | 2 (c)

Answer **all** questions in the spaces provided.

Do not write outside the box

1 (a) Solve $w + 8 = 19$

[1 mark]

19 - 8

$w =$ 11 ✓

1 (b) Solve $3x = 24$

[1 mark]

24 ÷ 3

$x =$ 8 ✓

1 (c) Solve $20 - y = 7$

[1 mark]

20 = y + 7

20 - 7 = y

$y =$ 13 ✓

Do not write outside the box

2 The **only** animals in a field are sheep and cows.

The ratio sheep : cows = 31 : 47

There are fewer than 100 animals in the field.

2 (a) Write down the number of **cows** in the field.

[1 mark]

Answer 47 ✓

2 (b) **In total**, how many animals are there in the field?

[1 mark]

$$\begin{array}{r} 47 \\ +\ 31 \\ \hline 78 \end{array}$$

Answer 78 ✓

Turn over for the next question

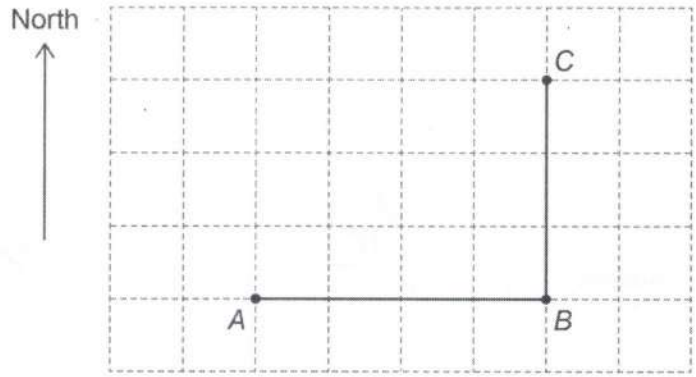
5

Do not write outside the box

3 A path joins points *A*, *B*, and *C*.

The scale drawing shows the path on a centimetre grid.

Scale: 1 centimetre represents 10 metres



3 (a) Write down the direction of *B* from *A*.

[1 mark]

Answer East/Easterly/E ✓

3 (b) Work out the **actual** distance along the path from *A* to *C*.

[2 marks]

(4+3) x 10 ✓

Answer 70 ✓ metres

Do not write outside the box

4 (a) Simplify $a \times b$

[1 mark]

Answer ab or ba ✓

4 (b) Simplify fully $c + c + c$

[1 mark]

Answer 3c ✓

4 (c) Simplify fully $p \times p \times p$

[1 mark]

Answer p^3 ✓

4 (d) Simplify $d \div d$

[1 mark]

Answer 1 ✓

Turn over for the next question

7

Do not write outside the box

5 Jenny walks

- 400 metres to the shop
- 250 metres to the park
- 380 metres home.

Show that Jenny walks more than 1 kilometre. = 1000m

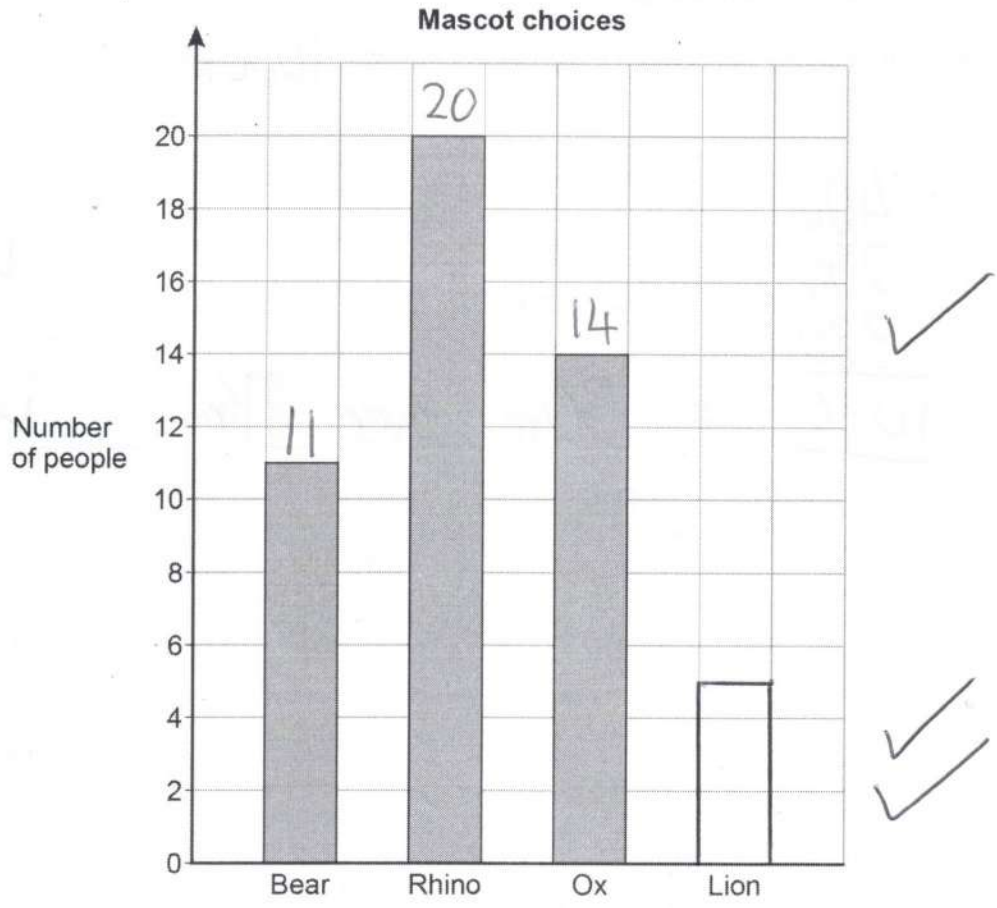
[2 marks]

400
250
380
1030 = 30m over 1Km ✓ ✓

Do not write outside the box

6 50 people choose a mascot for a team.

The bar chart shows some information about their choices.



The **50** people each choose one of bear, rhino, ox or lion.

Complete the bar chart.

[4 marks]

$50-(20-11-14)=5$

6

Do not write outside the box

7 Work out 80p as a fraction of £1

Give your answer in its simplest form. **[2 marks]**

$\frac{80}{100} = \frac{8}{10}$ ✓

Answer $\frac{4}{5}$ ✓

8 (a) Convert $3\frac{1}{2}$ hours to minutes. **[1 mark]**

3 x 60 + 30

Answer 210 ✓ minutes

8 (b) Convert 1400 grams to kilograms. **[1 mark]**

÷1000

Answer 1.4 ✓ kilograms

8 (c) Convert 32 kilometres to miles.

Use 8 kilometres = 5 miles **[2 marks]**

x4 ✓

Answer 20 ✓ miles

Do not write outside the box

9 The table shows information about two workers on one day.

	Total working time (hours)	Working time spent online (minutes)
Zeke	8	200
Margot	4	110

9 (a) Margot started work at 10:30am

What time did she finish? +4

[1 mark]

Answer 2:30 pm ✓OE

9 (b) Zeke says he spent **more than one quarter** of his total working time online.

Is he correct?

[3 marks]

Tick a box.

Yes ☑ No ☐

Show working to support your answer. ✓dep

$\frac{200}{480} = \frac{20}{48} = \frac{5}{12}$ ✓

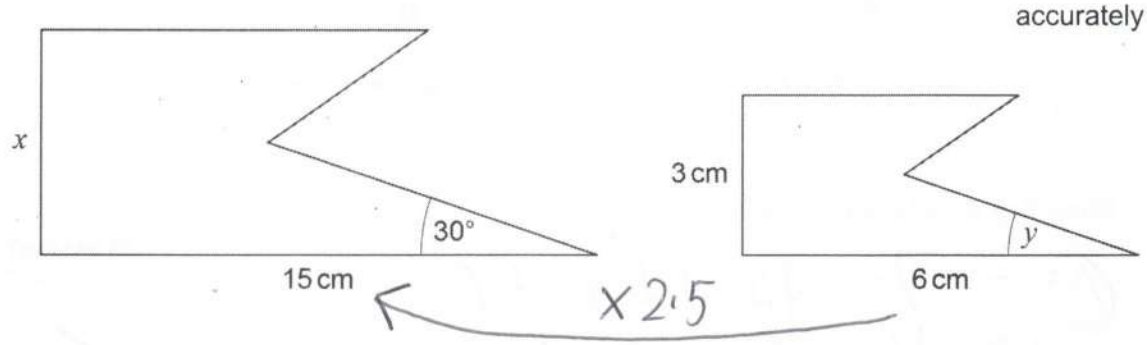
$\frac{1}{4} = \frac{3}{12}$ ✓

10

Do not write outside the box

10 These two shapes are similar.

Not drawn accurately



10 (a) Write down the value of y.

[1 mark]

$y =$ 30 ✓ °

10 (b) Work out the value of x.

[2 marks]

3 x 2·5 ✓

$x =$ 7·5 ✓ cm

Do not write outside the box

11 Here are two expressions, A and B.

A	B
$7(x-2)+4x+6$	$5(3x+2)-4x-18$

Show that A and B are equivalent.

[3 marks]

(A) $= 7x - 14 + 4x + 6$
$= 11x - 8$ ✓

(B) $= 15x + 10 - 4x - 18$
$= 11x - 8$ ✓

✓all

12 4 apples cost £2.20

Work out the cost of 7 of these apples.

[2 marks]

1a = 55p ✓

7 x 0·55

Answer £ 3·85 ✓

8

Do not write outside the box

13 Ingrid records the number of minutes she uses her mobile phone over four weeks.

140 168 205 192

13 (a) Work out the range.

[1 mark]

205 - 140

Answer 65 minutes ✓

13 (b) Ingrid records the number of minutes for a fifth week.
The mean for all **five** weeks is 178 minutes.

Work out the number of minutes used in the fifth week.

[3 marks]

✓ (5 x 178) - (140 + 168 + 205 + 192) ✓

890 - 705

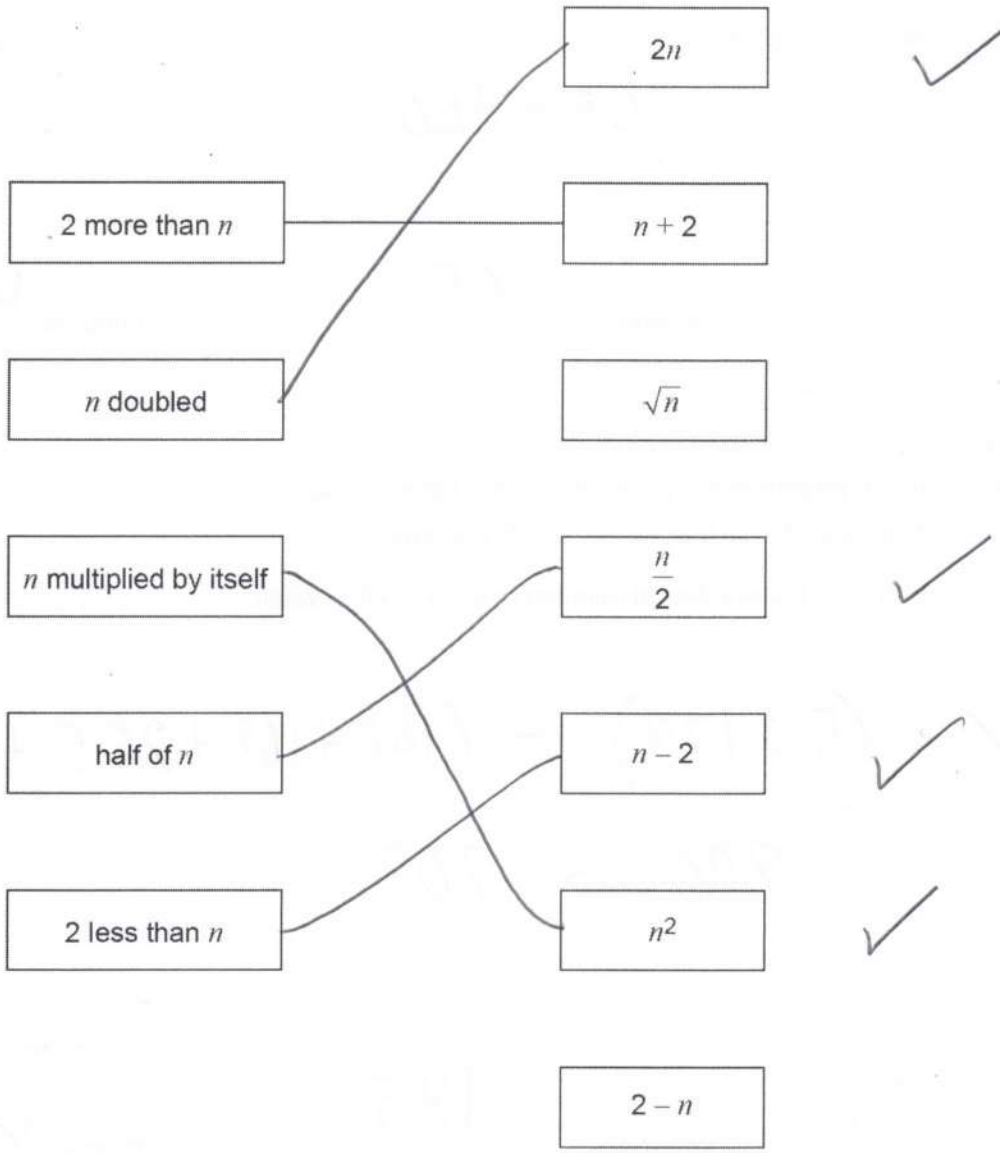
Answer 185 minutes ✓

Do not write outside the box

14 Match each description to the correct expression.

One has been done for you.

[4 marks]



8

Do not write outside the box

15 A rectangle has

- an area of 60 cm^2
- a side length of 10 cm

$w = 6$

Warren says,

"The perimeter of the rectangle is 32 cm because 60 ÷ 10 = 6"

Is Warren correct?

Tick a box.

Yes ☑ No ☐

Show working to support your answer.

[1 mark]

$10 + 6 + 10 + 6 = 32$

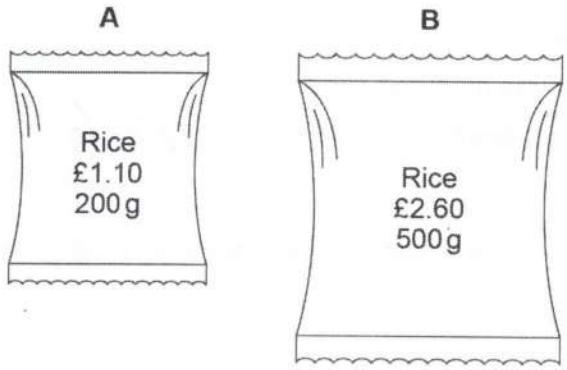
16 Rearrange $a + 3 = b$ to make a the subject.

[1 mark]

$a =$ $b - 3$ ✓

Do not write outside the box

17



Which packet of rice is better value for money?

Tick a box.

A ☐ B ☑ ✓dep

You **must** show your working.

[3 marks]

A

100g = £0.55 ✓

B

100g = £0.52 ✓

5

Do not write outside the box

18 (a) Sam uses either the bus or the train to get to work.

$$\frac{\text{number of days using bus}}{\text{number of days using train}} = \frac{1}{8}$$

Write down the ratio number of days using bus : number of days using train

[1 mark]

Answer 1 : 8 ✓

18 (b) Write the ratio $6a : 5a$ in the form $n : 1$ where n is a **decimal**.

[2 marks]

$6a \div 5a = 1.2$ ✓

Answer 1.2 : 1 ✓

18 (c) $1 : x = x : 4$

Work out the value of x

[1 mark]

$x =$ 2 ✓

Do not write outside the box

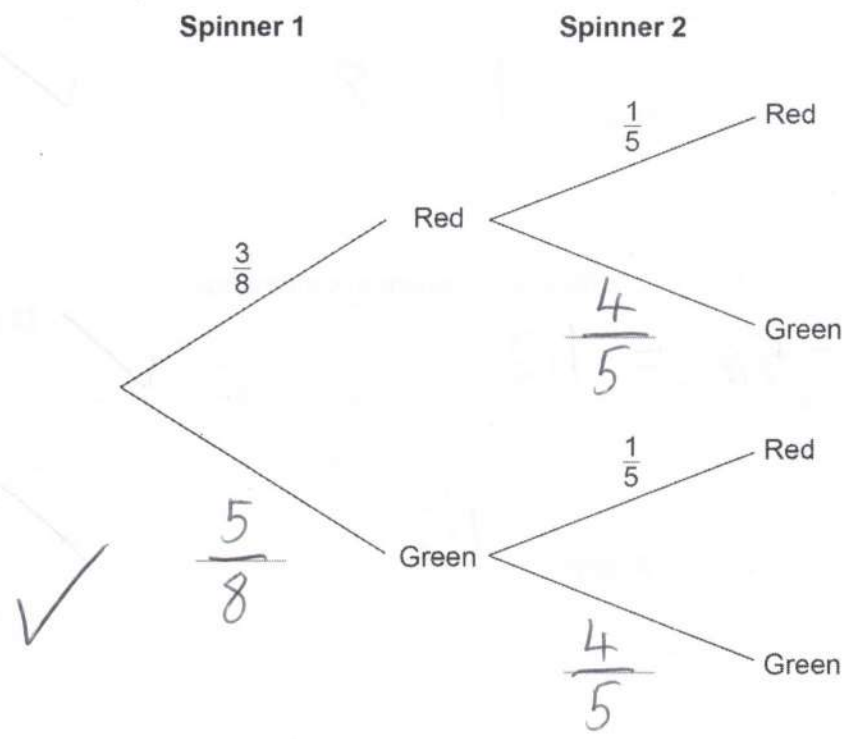
19 Two spinners each have only red sections and green sections.

Spinner 1 $P(\text{red}) = \frac{3}{8}$

Spinner 2 $P(\text{red}) = \frac{1}{5}$

19 (a) Complete the tree diagram.

[2 marks]



19 (b) Both spinners are spun.

Work out the probability that **both** spinners land on red.

[1 mark]

$\frac{3}{8} \times \frac{1}{5}$

Answer $\frac{3}{40}$

7

Do not write outside the box

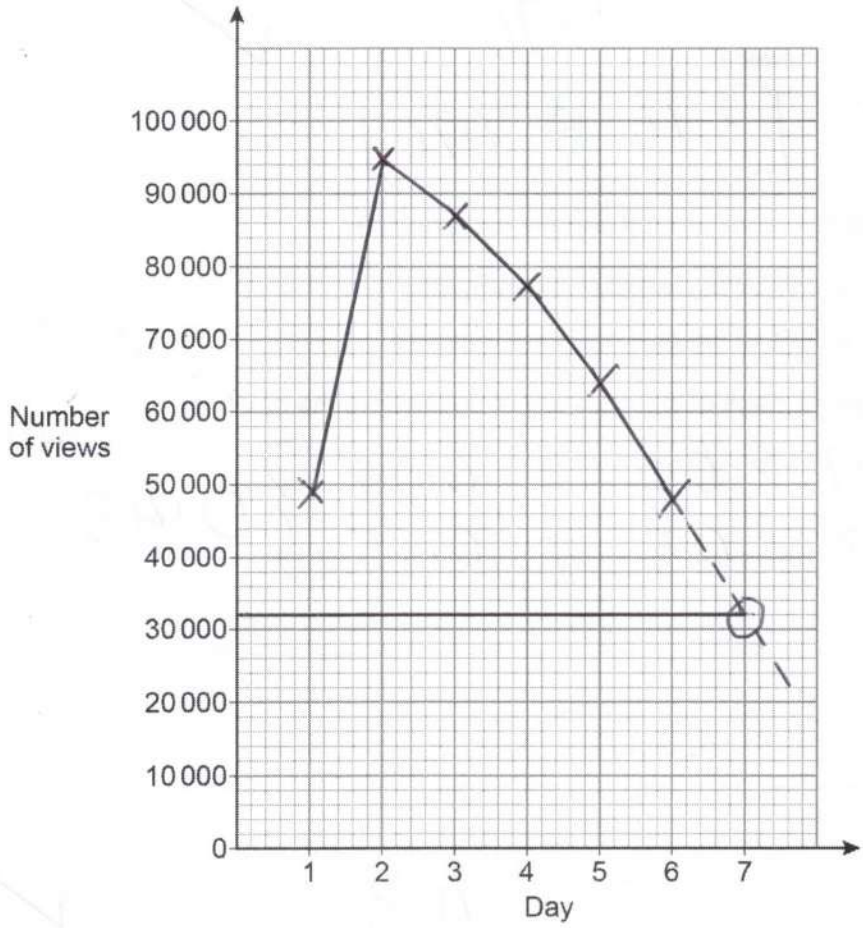
20 Youssuf posted an advert on his social media channel.

The table shows the number of views of the advert during its first 6 days.

Day	1	2	3	4	5	6
Number of views	49 000	95 000	87 000	77 000	64 000	48 000

20 (a) On the grid, draw a time series graph to represent the data.

[2 marks]



Do not write outside the box

20 (b) Youssuf receives 0.018p for each view of the advert.

Estimate how much he receives from views of the advert on **day 7**

[3 marks]

✓ $\frac{32000 \times 0.018}{100}$ ✓

(20000 to 40000)

Answer £ 5.76 ✓

[3.60 → 7.20]

21 70% of the discs in a box are red and the rest are blue.

- 40% of the red discs are removed.
- 50% of the blue discs are removed.

In total, what percentage of the discs are removed from the box?

[3 marks]

(R) $0.7 \times 0.4 = 0.28$ } 0.43 ✓

(B) $0.3 \times 0.5 = 0.15$ } ✓

43 ✓

Answer _____ %

8

Do not write outside the box

22 A group of adults and students go to a theme park.

Here are the prices.

Adult	£24.50
Student	£16.25

One adult free with every 5 students

In the group there are 48 students. → 9 adults free ✓

The total price for the group is £927

How many adults are in the group?

[4 marks]

$48 \times 16{\cdot}25 = 780$ ✓

$\frac{927 - 780}{24{\cdot}50} = 6$ more adults ✓

Answer 15 ✓

Do not write outside the box

23 (a) The length of a fence panel is 160 cm to the nearest 10 cm

Complete the error interval. $\pm \frac{1}{2}$ 10cm **[2 marks]**

Answer 155 cm ⩽ length < 165 cm

23 (b) A different fence panel measures 2 metres to the nearest 10 cm

Kim says that the total length of **three** of these fence panels must be less than 6.2 m

Show that Kim is correct.

[2 marks]

Max length = 2·05m ✓

2·05 x 3 = 6·15m ✓

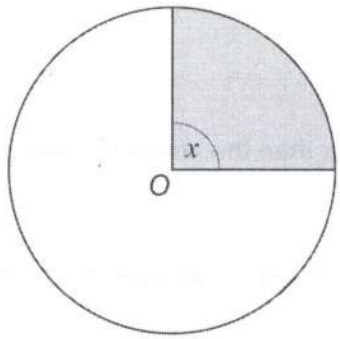
24 Circle the expression which is a factor of $3x + 15$ = 3(x+5) **[1 mark]**

$3x$ $x + 12$ $x + 5$ $x + 15$ ✓

9

Do not write outside the box

25 Here is a circle, centre O.



Not drawn accurately

25 (a) The circle has a circumference of 20 cm

$= 2\pi r$

Assume that angle x is 90°

Work out the shaded area.

$r = \frac{10}{\pi}$ ✓

Give your answer as a decimal.

[3 marks]

$\frac{1}{4} \times \pi \times \left(\frac{10}{\pi}\right)^2$ ✓

Answer 7.95... ✓ cm^2

[7.93 → 7.97]

Do not write outside the box

25 (b) In fact, angle x is smaller than 90°

What does this mean about the shaded area?

Tick **one** box.

[1 mark]

- [x] It is smaller than the answer to part (a)
- [ ] It is the same as the answer to part (a)
- [ ] It is larger than the answer to part (a)
- [ ] It could be any of the above

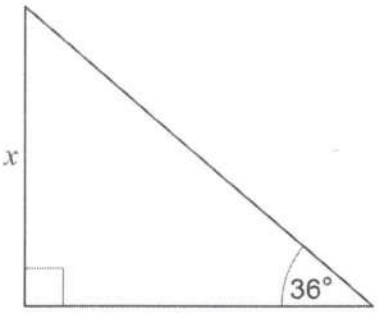
Turn over for the next question

4

Do not write outside the box

26

OPP



ADJ

Not drawn accurately



Use trigonometry to work out the value of x.

You **must** show your working.

[3 marks]

$x = 4 \times \tan 36$

$x =$ 2·9... cm

[2·9 → 2·91]

END OF QUESTIONS

3