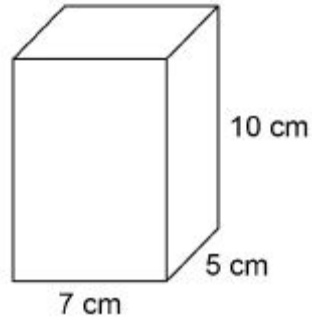


GCSE
MATHEMATICS (8300)
FOUNDATION
Geometry

Total number of marks: 31 per optional item

Q14

Here is a cuboid.



$$V = 10 \times 5 \times 7$$

$$V = 350$$

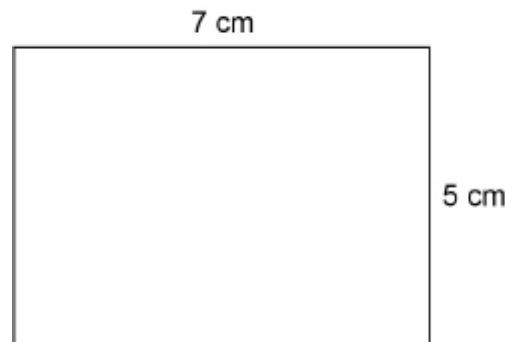
Work out the volume.

Answer 350 cm³

(Total 2 marks)

Q1

Here is a rectangle.



Not drawn
accurately

$$7 + 7 + 5 + 5 = 24$$

Work out the perimeter.

Circle your answer.

12 cm

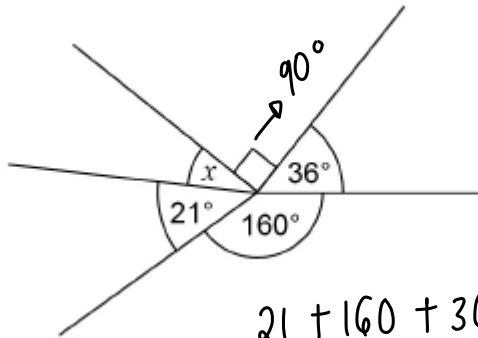
24 cm

35 cm

70 cm

(Total 1 mark)

Q13



Not drawn accurately

$$21 + 160 + 36 + 90 = 307^\circ$$

$$360 - 307 = 53^\circ$$

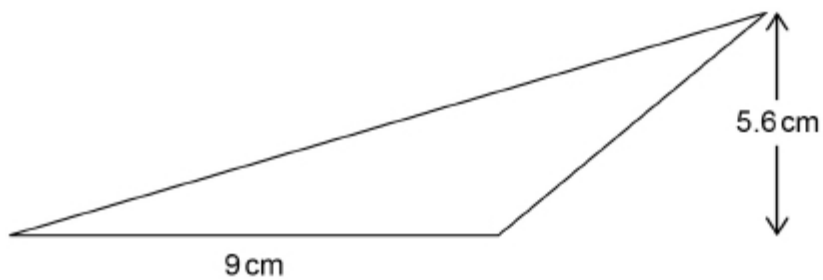
Work out the size of angle x .Answer 53 degrees

(Total 2 marks)

Q14

A triangle has base 9 cm and perpendicular height 5.6 cm

Not drawn accurately



$$A = \frac{1}{2} (b \times h)$$

$$= \frac{1}{2} (9 \times 5.6)$$

Work out the area of the triangle.

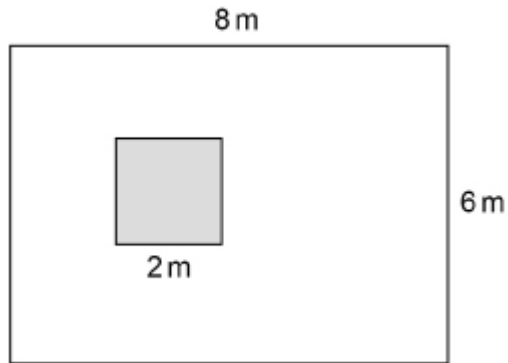
Answer 25.2 cm²

(Total 2 marks)

Q7

A rectangular carpet measures 8 m by 6 m.

Part of the carpet is covered by a square rug of length 2 m



Not drawn
accurately

Show that $\frac{1}{12}$ of the carpet is covered by the rug.

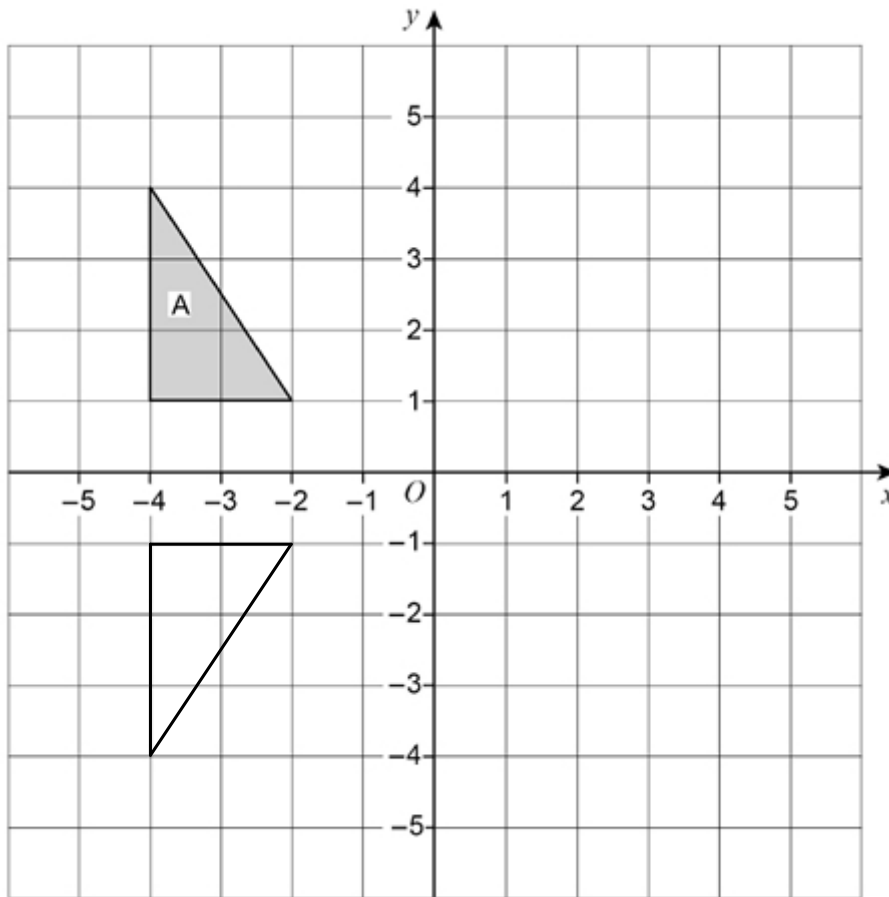
(Total 2 marks)

$$\begin{aligned} \text{area of rug} &= 2 \times 2 = 4 \text{ m}^2 \\ \text{area of carpet} &= 6 \times 8 = 48 \text{ m}^2 \end{aligned}$$

$$\frac{4}{48} = \frac{2}{24} = \underline{\underline{\frac{1}{12}}}$$

Q12

Reflect shape A in the x-axis.



(Total 2 marks)

Q21a

- (a) A circle has radius 4.2 cm

$$C = 2\pi r$$
$$= 2\pi(4.2)$$

Work out the length of the circumference.

Give your answer to 1 decimal place.

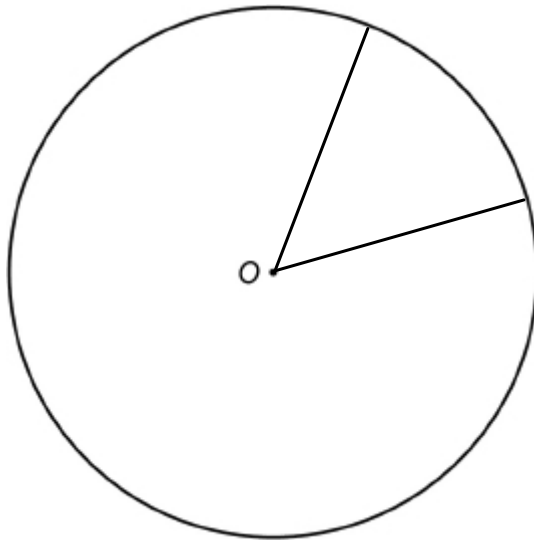
Answer 26.4 cm

(Total 3 marks)

Q21b

- (b) The circle below has centre O .

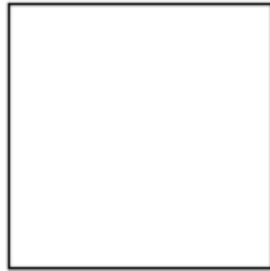
Draw a sector on the circle.



(Total 1 mark)

Q14a

The front elevation, side elevation and plan of a solid are all the same, as shown.



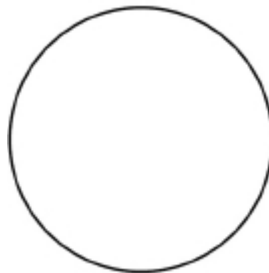
- (a) Write down the name of the solid.

cube

(Total 1 mark)

Q14b

- (b) The front elevation, side elevation and plan of a solid are all the same, as shown.



Write down the name of the solid.

sphere

(Total 1 mark)

Q16

Which shape **must** have rotational symmetry?

Circle your answer.

isosceles triangle

trapezium

kite

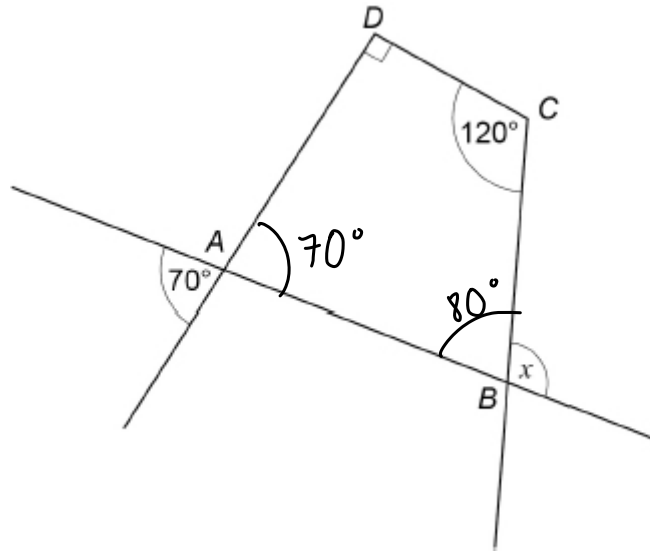
parallelogram

(Total 1 mark)

Q18

$ABCD$ is a quadrilateral.

Sides are extended as shown.



Not drawn accurately

Show that $x = 100^\circ$

(Total 3 marks)

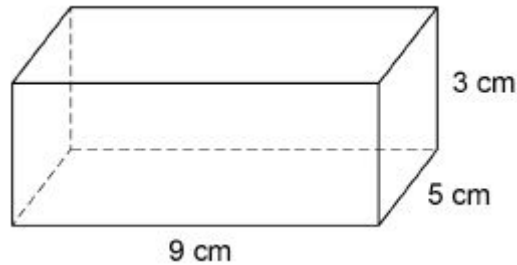
angle $DAB = 70^\circ$ as opposite angles around a point are equal.

angle $CBA = 80^\circ$ as angles in a quadrilateral add up to 360°

angle $x = 180 - 80 = 100^\circ$ as angles on a straight line add up to 180° .

Q22

Here is a cuboid.



The two **largest** faces are blue.

The other four faces are green.

Is the total blue area greater than the total green area?

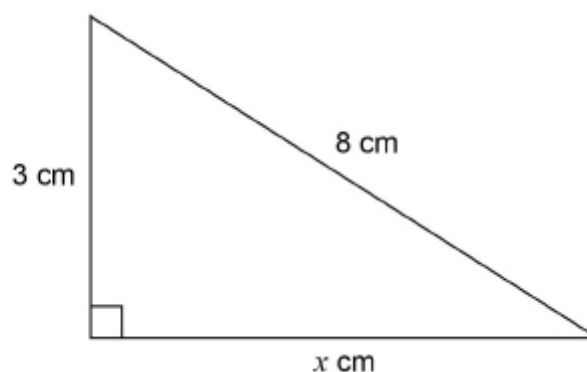
You **must** show your working.

$$\begin{aligned} \text{total blue area} &= \text{top} + \text{bottom} \\ &= (9 \times 5) \times 2 = 90 \text{ cm}^2 \\ \text{total green area} &= [(5 \times 3) \times 2] + [(9 \times 3) \times 2] \\ &= 84 \text{ cm}^2 \end{aligned}$$

(Total 3 marks)

$90 > 84$ so yes, the total blue area is greater than the total green area.

Q22



Not drawn accurately

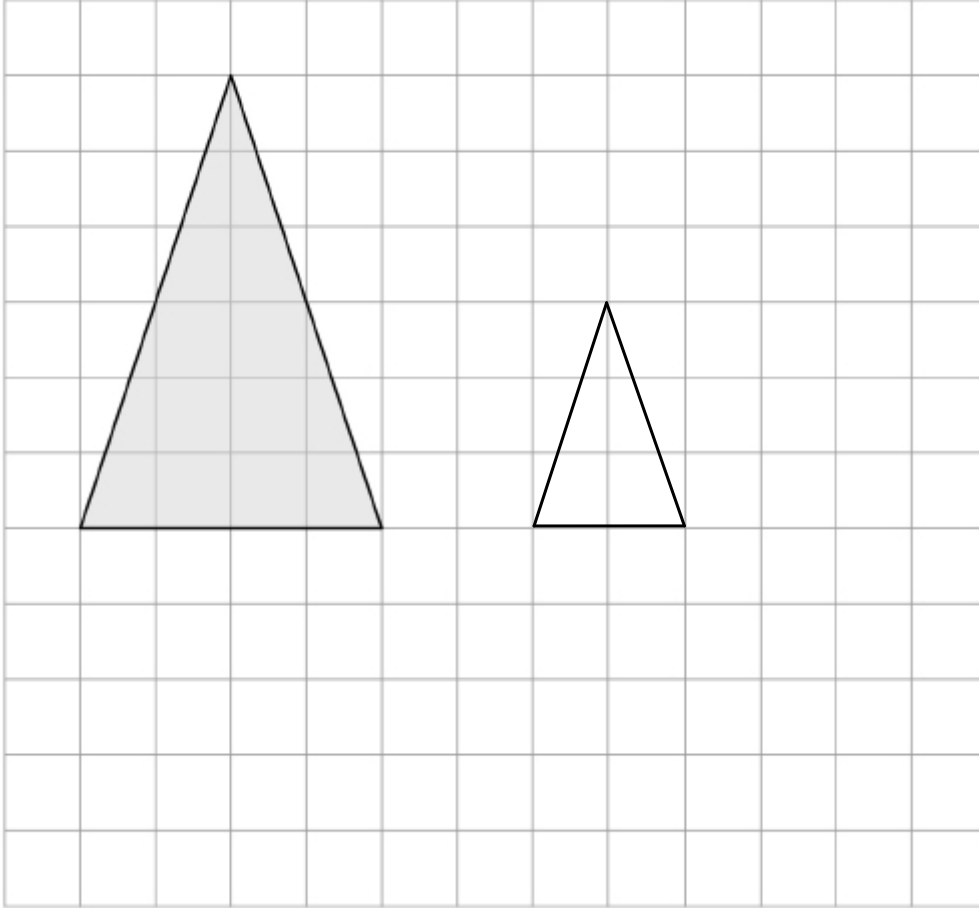
Work out the value of x as a decimal.

(Total 3 marks)

$$\begin{aligned} x^2 &= 8^2 - 3^2 \\ x^2 &= 64 - 9 = 55 \\ x &= \underline{\underline{7.42}} \end{aligned}$$

Q18

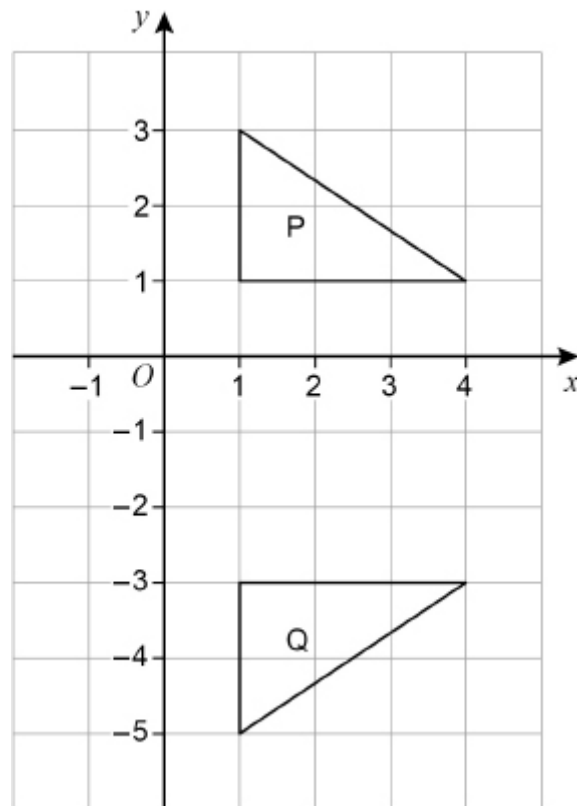
On the grid, draw an enlargement of the triangle with scale factor $\frac{1}{2}$



(Total 2 marks)

Q24a

- (a) Here are two triangles, P and Q.



Here is a statement.

A transformation that maps P to Q is a reflection in the line $x = -1$

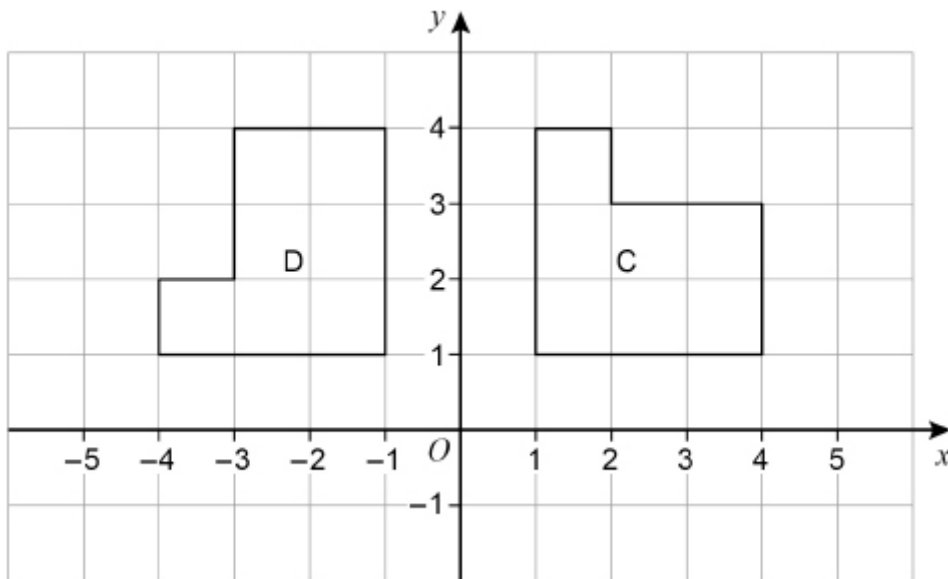
Make **one** criticism of the statement.

(Total 1 mark)

it's not a reflection in the x axis, it's a reflection in the y axis ($y = -1$)

Q24b

(b) Here are two shapes, C and D.



Here is a statement.

A transformation that maps C to D is a rotation through 90° anticlockwise.

Make **one** criticism of the statement.

the centre of rotation is not stated

(Total 1 mark)