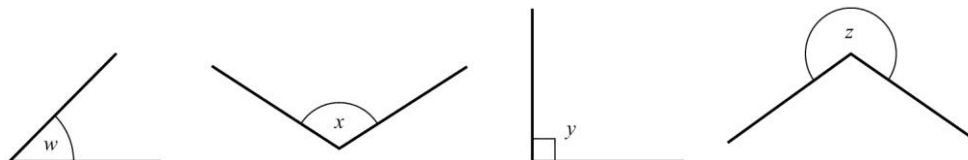


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1

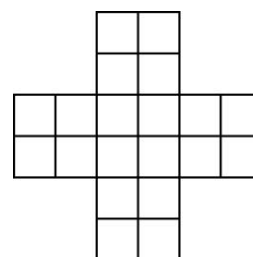


Which of the angles shown is: **a** an obtuse angle **b** an acute angle **c** a reflex angle?

2 Make four copies of this diagram.

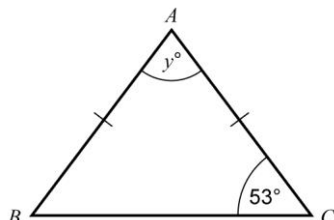
On each copy shade 4 squares to make:

- a** a shape with 4 lines of symmetry
- b** a shape with only 2 lines of symmetry
- c** a shape with rotational symmetry of 4, but different from your shape in **a**
- d** a shape with no rotational symmetry.

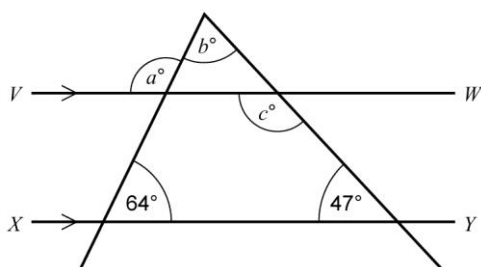


3 Zara needs one-and-a-quarter pounds of flour to make a cake. She has a 500 gram bag of flour. Will she have enough flour? Explain your answer.

- 4** In triangle ABC , $AB = AC$ and angle $C = 53^\circ$
- a** Write down the special name for triangle ABC .
 - b** Work out the value of angle y .



6 The lines VW and XY are parallel. Find the values of angles a , b and c .



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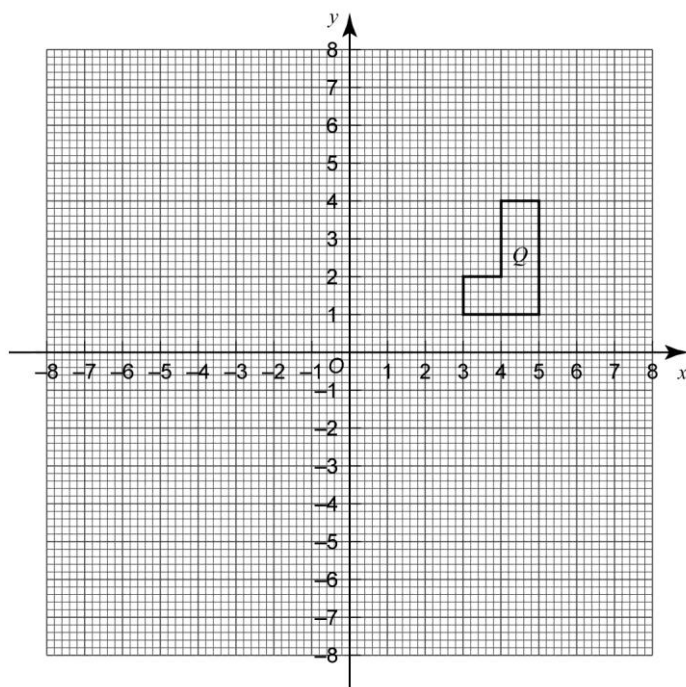
- 6** Copy the axes and the shape Q .
a Reflect Q in the y -axis. Label your image A .
b Rotate Q through 90° clockwise about the origin.

Label your image B .

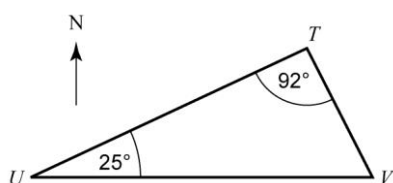
- c** Draw an enlargement of Q , using a scale factor of 4 and a centre of enlargement $(6, 4)$.
 Label your image C .

- d** Translate Q through the vector $\begin{pmatrix} -7 \\ 4 \end{pmatrix}$

Label your image D .

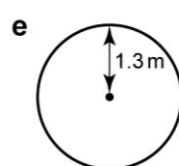
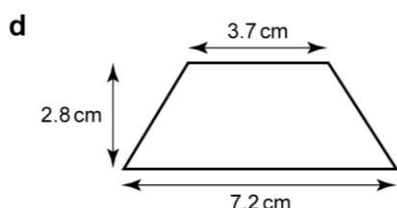
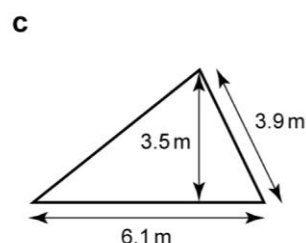
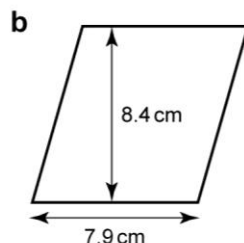
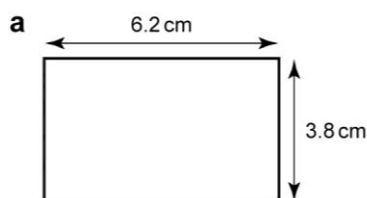


- 7** The diagram shows three airports U , T and V . V is due east of U .
 Angle VUT is 25° and angle UTV is 92° .
a What is the bearing of T from U ?
b Calculate the angle UVT . Show your working.
c Calculate the bearing of T from V .



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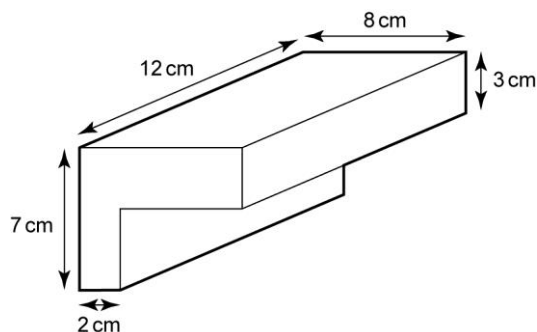
8 Find the area of each of these shapes.



9 The diagram shows a prism with a cross-section in an L-shape.

Find:

- a** the area of the L-shaped cross-section
- b** the volume of the prism
- c** the surface area of the prism.



10 Henry completed a 30km marathon in 3 hours 20 minutes.

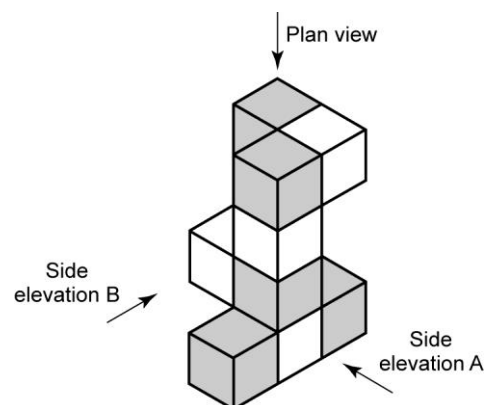
What was his average speed in kilometres per hour?

11 The diagram shows a model made with nine cubes.

Five of the cubes are grey. The other four cubes are white.

Draw each of the following, shading the correct cubes:

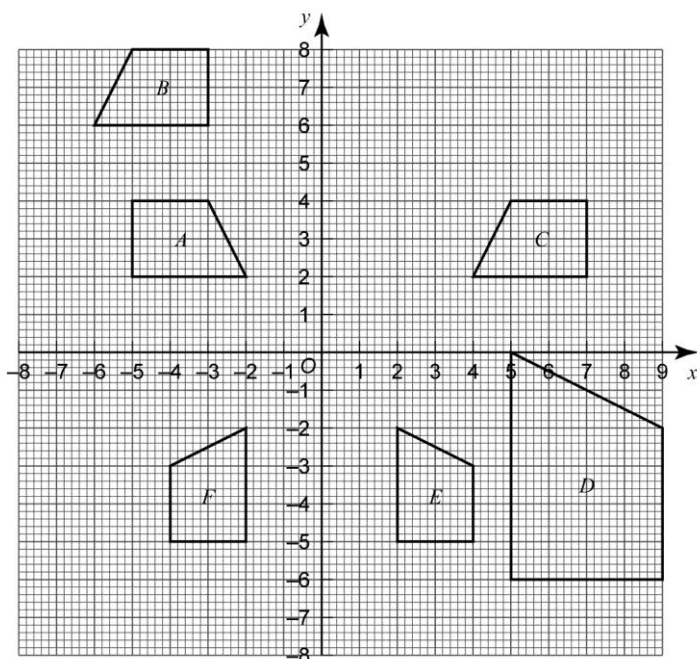
- a** the side elevation A
- b** the side elevation B
- c** the plan view.



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12 Describe fully the transformation that maps shape:

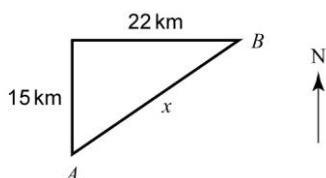
- a** A on to F
- b** B on to C
- c** E on to D
- d** E on to A
- e** A on to C .



13 a Construct a triangle ABC with $AB = 11$ cm, $AC = 8$ cm and $BC = 9.5$ cm

- b** Construct the locus of points 5 cm from A .
- c** Construct the locus of points equidistant from BA and BC .
- d** Label the point P inside triangle ABC , where the two loci intersect.
- e** Measure and write down the length of PC .

14 A ship sails 15 km due North from point A and then 22 km due East to point B . How far is point B from the ship's starting point?



15 The diagram shows a park $PQRS$.

PQ is 47 m long.

QR is 21 m long.

RS is 33 m long.

Angles PQR and RSP are right angles.

There is a path PR running across the park.

- a** Calculate the length of the path, PR .
- b** Calculate the length of the side of the park, PS .

