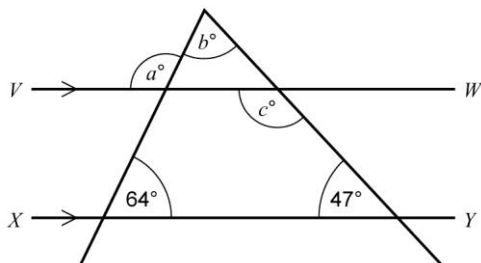


Name Class Date

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

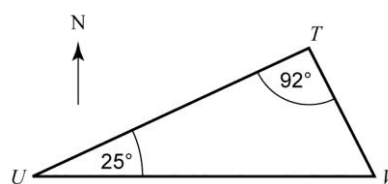


- 2 The diagram shows three airports U , T and V .

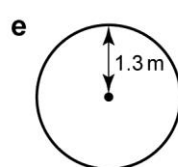
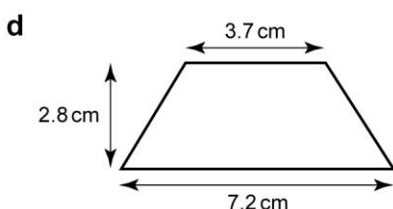
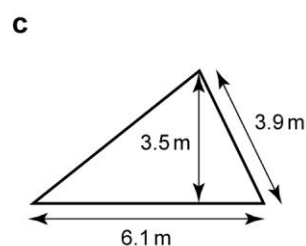
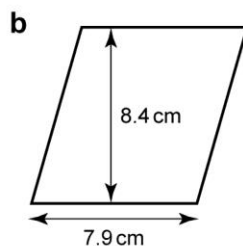
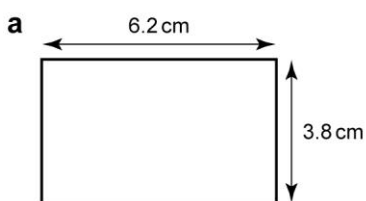
V is due east of U .

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 .

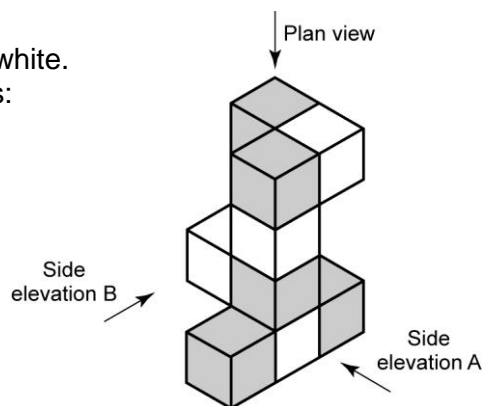


- 3 Find the area of each of these shapes.



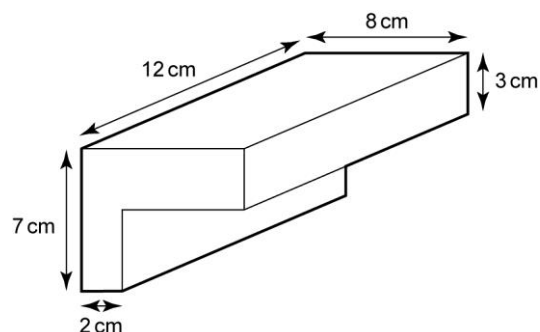
- 4 The diagram shows a model made with nine cubes. Five of the cubes are grey. The other four cubes are white. Draw each of the following, shading the correct cubes:

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

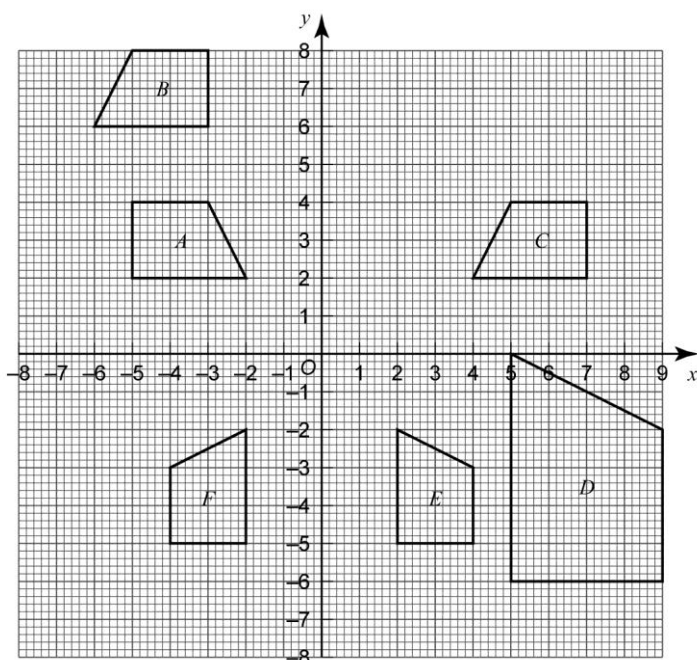


Name Class Date

- 5** Calculate:
- a** the exterior angle of a regular octagon
 - b** the sum of the interior angles of a decagon
 - c** the interior angle of a regular 15-sided polygon.
- 6** 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.



- 7** 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 .

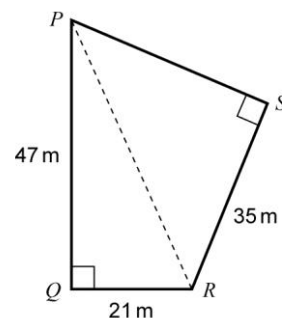


Name Class Date

- 8 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 Shade the area inside triangle ABC that is less than 5 cm from A and nearer to AB than BC .

- 9** The diagram shows a park $PQRS$.
 PQ is 47 m long.
 QR is 21 m long.
 RS is 35 m long.
Angles PQR and RSP are right angles.
There is a path PR running across the park.

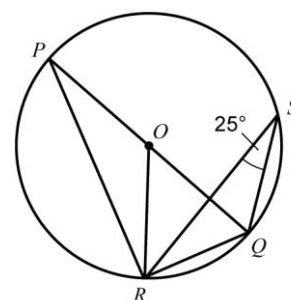
- a** Calculate the length of the path, PR .
b Calculate the length of the side of the park, PS .



- 10** In the diagram, PQ is a diameter of the circle and O is the centre.
Calculate the size of angles

- a** ROQ **b** RPQ **c** PRQ

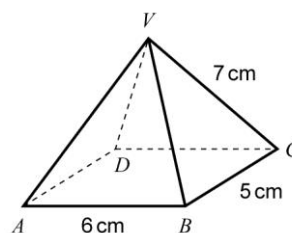
Give a reason for each of your answers.



- 11** The base of a pyramid, vertex V , is a rectangle $ABCD$.
The rectangle measures 6 cm \times 5 cm
The length of a slant edge of the pyramid is 7 cm.

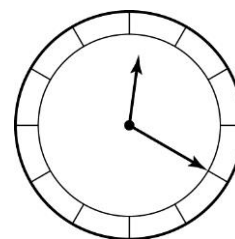
Calculate:

- a** the height of the pyramid
b the volume of the pyramid
c the angle which the slant edge AV makes with the base.



- 12** The diagram shows a church clock at 12:20.
The hour hand is 0.8 m long and the minute hand is 1.3 m long.

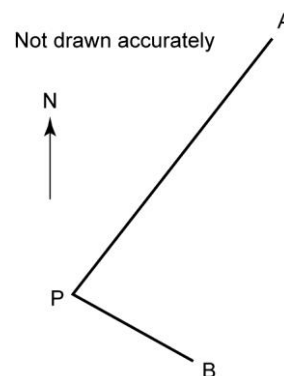
- a** Calculate the angle that the hour hand has moved through since 12:00.
b Calculate the length of the arc, in cm, swept out by the tip of the hour hand since 12:00.
c Calculate the area, in cm^2 , swept out by the hour hand since 12:00.
d Calculate the distance, in m, between the tips of the hour hand and the minute hand at 12:20.



Name Class Date

13 A ship, A , is 11.3 km from a port P , on a bearing of 038° . Another ship, B , is 4.8 km from P on a bearing of 119° .

- a** Calculate the distance, AB , between the two ships.
b Calculate the bearing of ship A from ship B .
Give your answer to the nearest degree.



14 $PQRS$ is a trapezium with PQ parallel to SR .

$PQRT$ is a parallelogram.

TR is twice the length of ST .

Given that $PQ = a$ and $QR = b$,
express each of the following in terms of vectors a and b .

- a** PT **b** PR **c** RT **d** SR **e** PS

