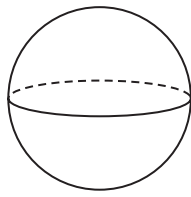
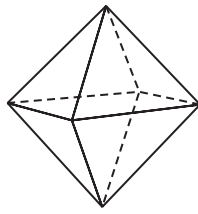


1 The diagram shows some 3-D shapes.

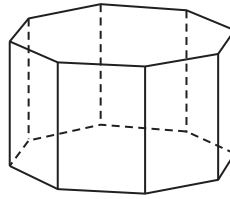
Shape A



Shape B



Shape C



(a) What is the mathematical name of shape **A**?

.....
(1)

(b) How many edges has shape **B**?

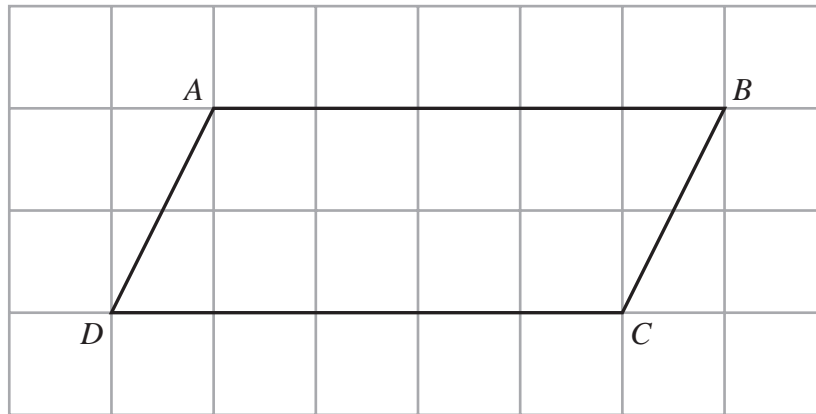
.....
(1)

(c) How many faces has shape **C**?

.....
(1)

(Total for Question 1 is 3 marks)

- 2 The diagram shows a quadrilateral $ABCD$ drawn on a square grid.



- (a) Measure the length of BC .

..... cm
(1)

- (b) Write down the mathematical name of quadrilateral $ABCD$.

.....
(1)

- (c) Write down the order of rotational symmetry of quadrilateral $ABCD$.

.....
(1)

- (d) On the diagram, mark an obtuse angle with the letter x .

(1)

Here is a diagram of a trapezium.

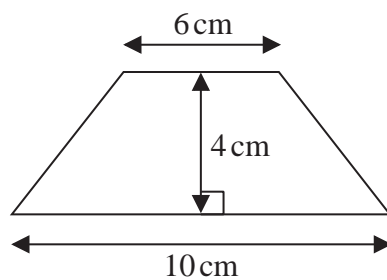


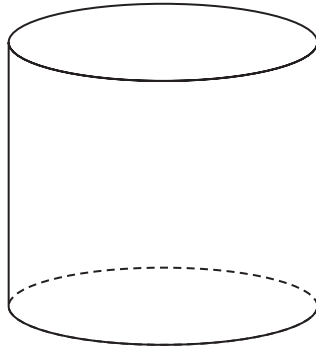
Diagram **NOT**
accurately drawn

(e) Work out the area of the trapezium.

..... cm²
(2)

(Total for Question 2 is 6 marks)

- 3 (a) Write down the mathematical name of this 3-D shape.



.....
(1)

Here is a solid cuboid.

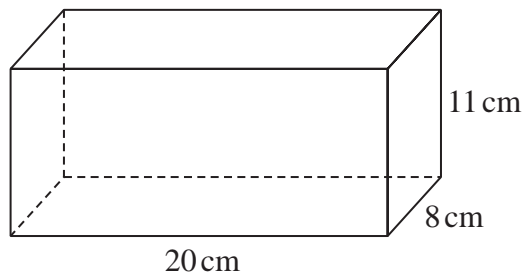


Diagram **NOT**
accurately drawn

- (b) (i) How many faces has the cuboid?

- (ii) How many vertices has the cuboid?

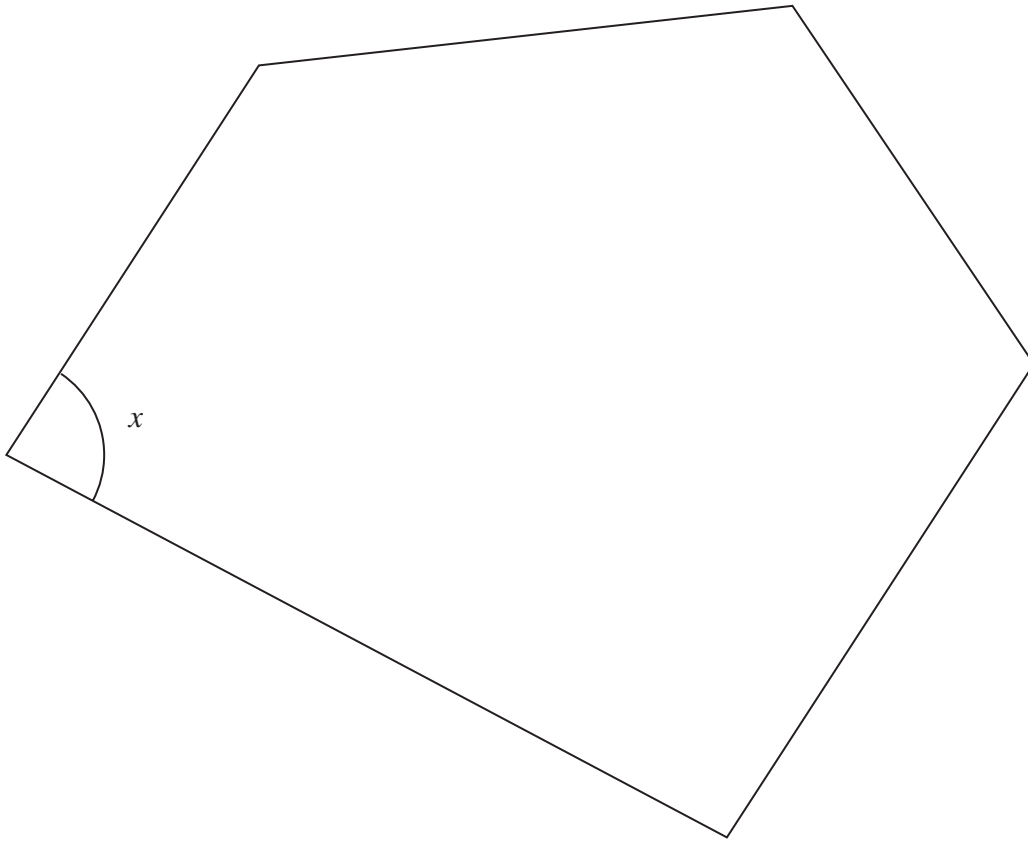
.....
(2)

- (c) Work out the volume of the cuboid.

..... cm³
(2)

(Total for Question 3 is 5 marks)

- 4 Here is a polygon with five sides.



- (a) Write down the mathematical name of a polygon with five sides.

.....
(1)

- (b) Measure the size of the angle marked x .

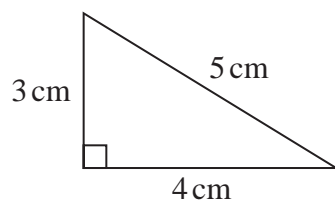
.....
(1)

Two sides of the polygon are parallel.

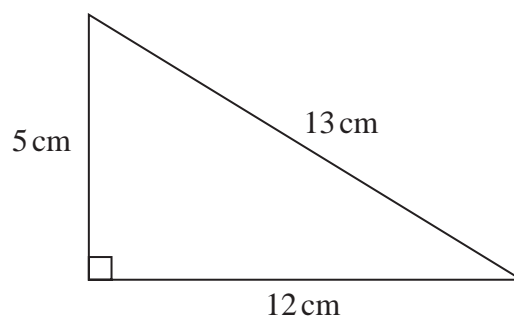
- (c) On the polygon, mark with arrows ($>>$) this pair of parallel lines.

(1)

Here are two triangles.



Triangle **A**



Triangle **B**

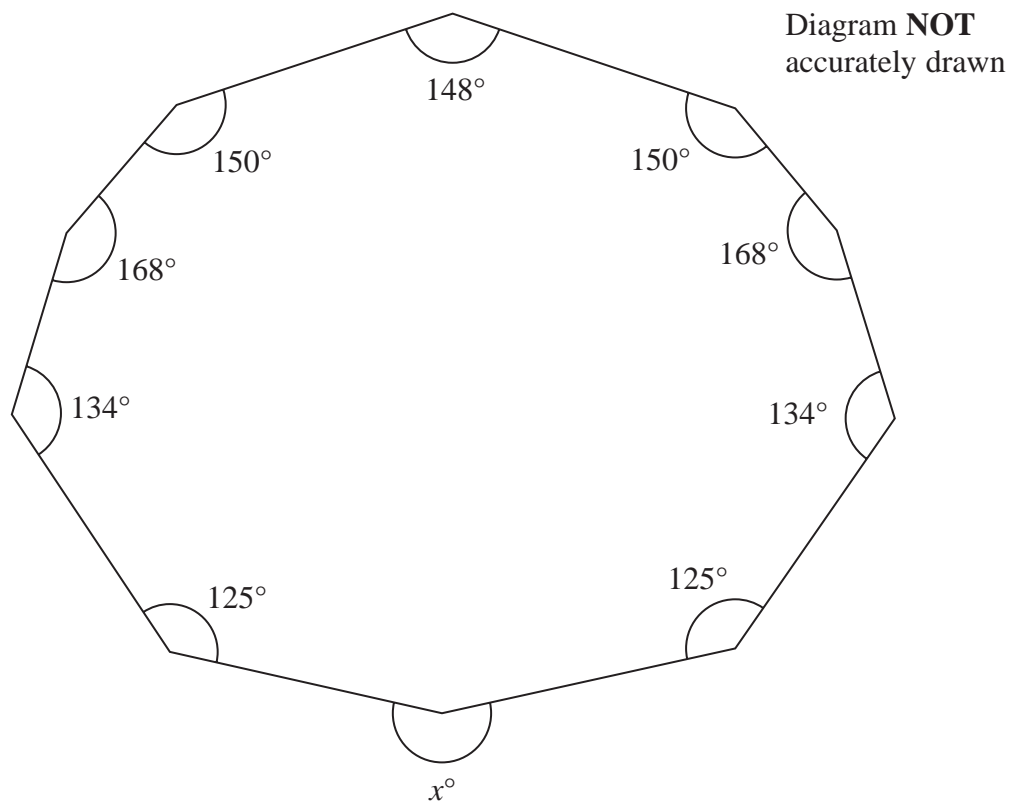
Diagram **NOT**
accurately drawn

- (d) Are triangle **A** and triangle **B** similar triangles?
You must give a reason for your answer.

(1)

(Total for Question 4 is 4 marks)

5 Here is a 10-sided polygon.

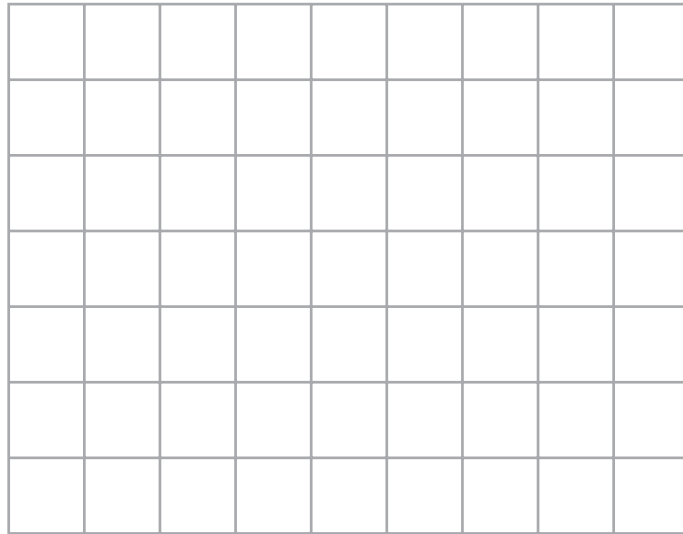


Work out the value of x .

$$x = \dots\dots\dots$$

(Total for Question 5 is 4 marks)

- 6 (a) On the grid below, draw a kite.

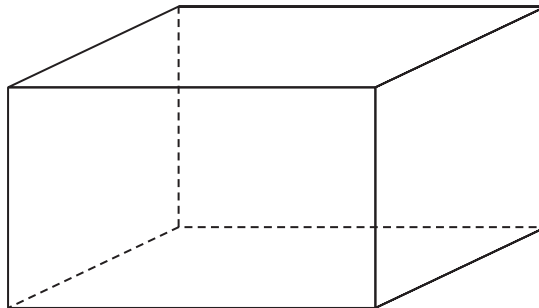


(1)

- (b) Write down the mathematical name of an 8-sided polygon.

.....
(1)

Here is a solid prism.



- (c) (i) Write down the mathematical name of this prism.

.....
(2)

- (ii) How many vertices does the prism have?

.....
(Total for Question 6 is 4 marks)

- 7 The diagram shows a rectangle and a diagonal of the rectangle.

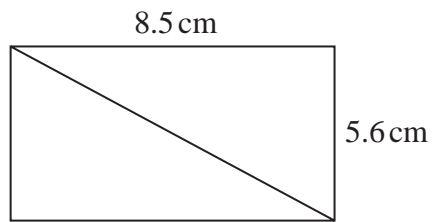


Diagram **NOT**
accurately drawn

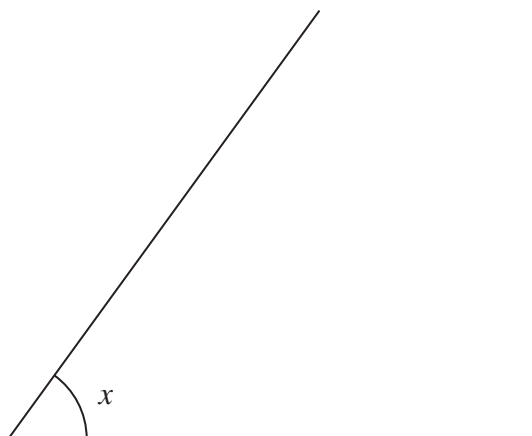
Work out the length of the diagonal of the rectangle.
Give your answer correct to 1 decimal place.

..... cm

(Total for Question 7 is 3 marks)

- 8 (a) Write down the order of rotational symmetry of a square.

.....
(1)



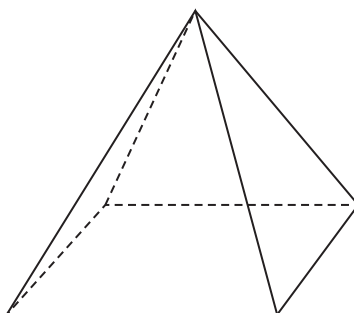
- (b) (i) Measure the size of the angle marked x .

.....
o

- (ii) Write down the mathematical name of this type of angle.

.....
(2)

Here is a 3-D shape.



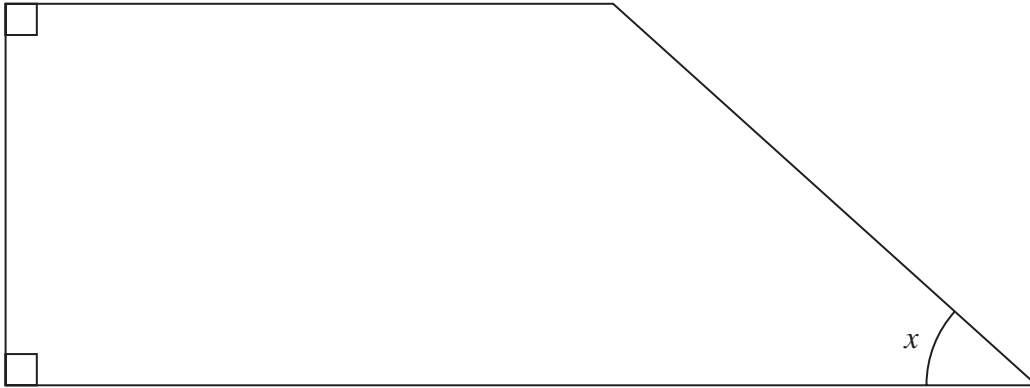
- (c) (i) Write down the mathematical name of this 3-D shape.

- (ii) How many edges does this shape have?

.....
(2)

(Total for Question 8 is 5 marks)

9 Here is a quadrilateral.



(a) What is the mathematical name of this quadrilateral?

.....
(1)

(b) Measure the size of the angle marked x .

.....
(1)

(c) On the quadrilateral, mark with arrows (\gg) a pair of parallel lines.

(1)

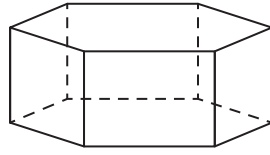
The quadrilateral has four angles.

(d) How many of these angles are right angles?

.....
(1)

(Total for Question 9 is 4 marks)

10 The diagram shows a solid prism.



(a) How many vertices has the prism?

.....
(1)

(b) How many faces has the prism?

.....
(1)

(c) Using ruler and compasses only, in the space below construct the equilateral triangle ABC with sides of length 7 cm.
You must show all your construction lines.

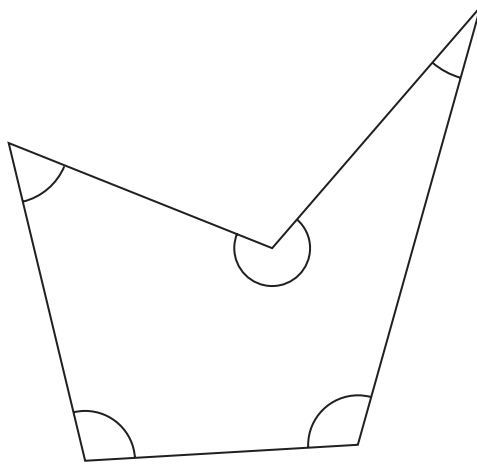
Side AB has already been drawn for you.

A ————— B

(2)

(Total for Question 10 is 4 marks)

11 Here is a 5-sided polygon.



(a) Write down the mathematical name for a 5-sided polygon.

.....
(1)

(b) On the diagram, mark with a letter *A* an acute angle.

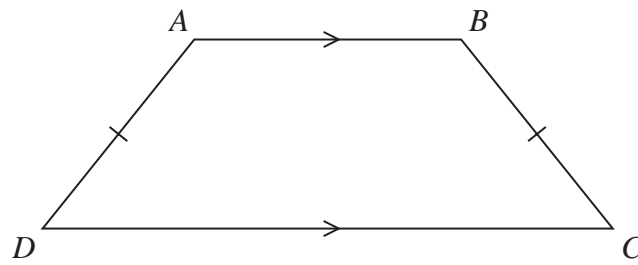
(1)

(c) On the diagram, mark with a letter *R* a reflex angle.

(1)

(Total for Question 11 is 3 marks)

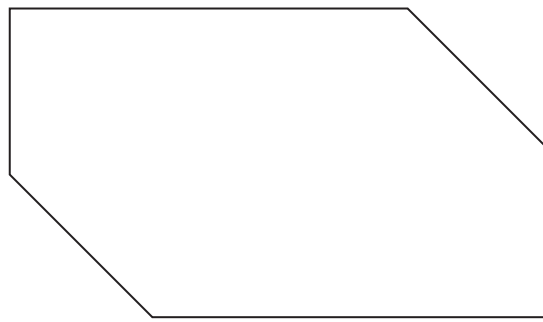
12 The diagram shows the trapezium $ABCD$



(a) How many lines of symmetry has $ABCD$?

.....
(1)

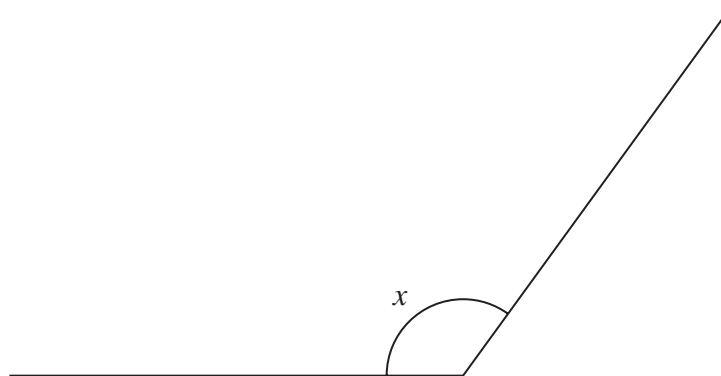
Here is another shape.



(b) Write down the order of rotational symmetry of this shape.

.....
(1)

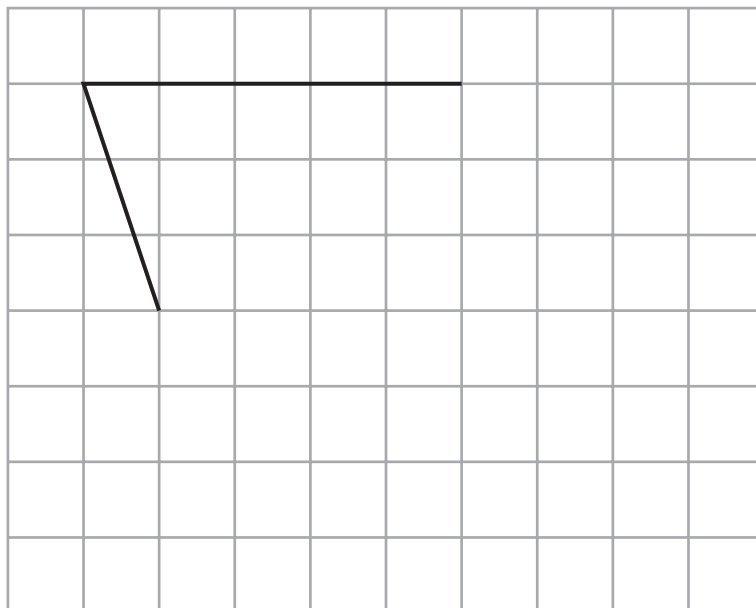
(c) Find, by measuring, the size of the angle marked x



.....
(1)

(Total for Question 12 is 3 marks)

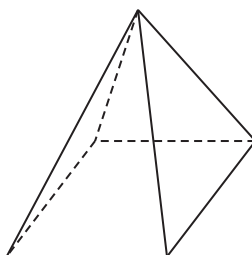
13 Here are two sides of a parallelogram.



(a) On the grid above, complete the parallelogram.

(1)

The diagram shows a 3-D shape.



(b) (i) What is the mathematical name of this 3-D shape?

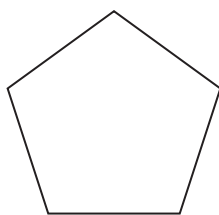
.....
(1)

(ii) How many faces has this shape?

.....
(1)

(Total for Question 13 is 3 marks)

14 Here is a polygon.



(a) Write down the mathematical name of this polygon.

.....
(1)

(Total for Question 14 is 1 marks)

- 15 The diagram shows parts of three regular polygons, **A**, **B** and **C**, meeting at a point.

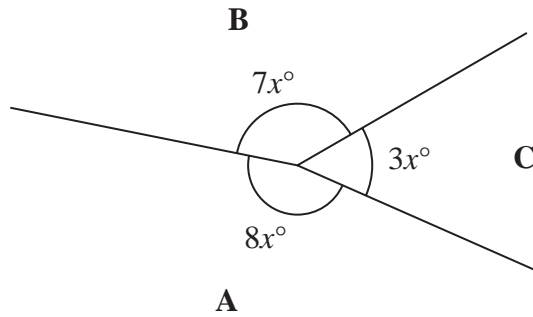


Diagram **NOT**
accurately drawn

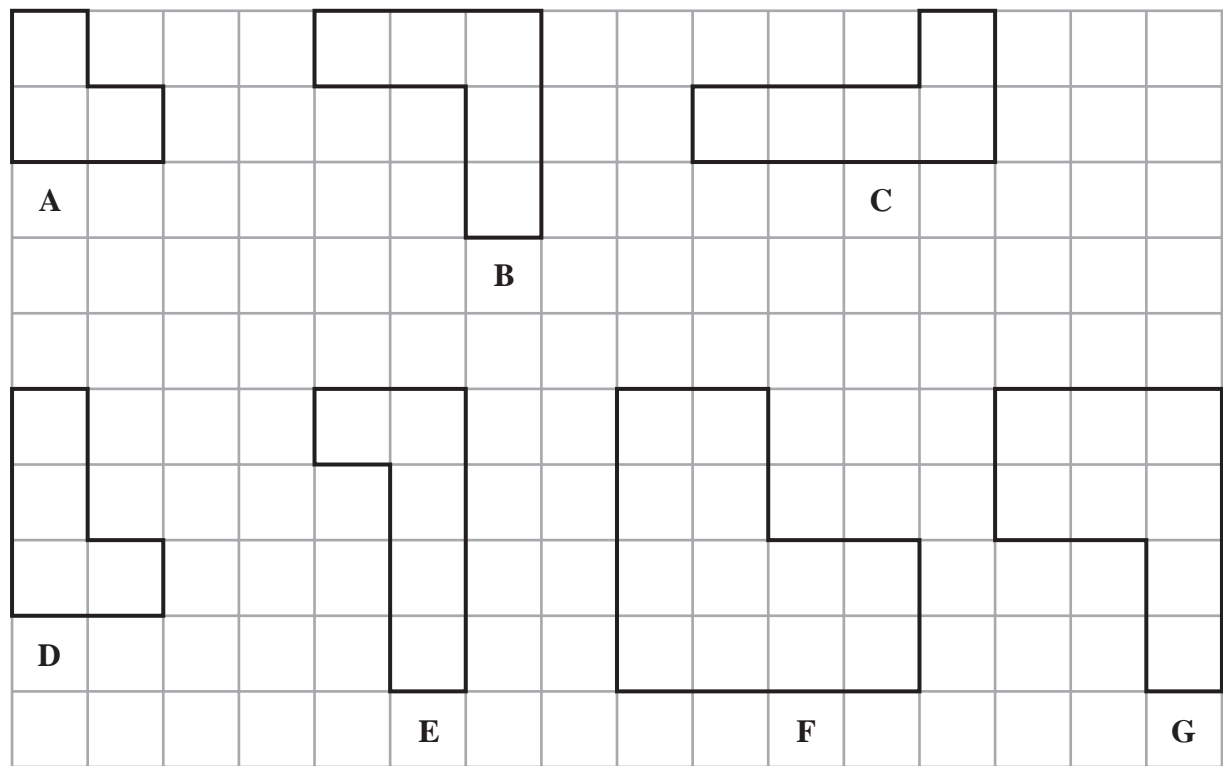
Polygon **B** has n sides.

Work out the value of n .

$n = \dots\dots\dots$

(Total for Question 15 is 4 marks)

16 Here are seven shapes on a centimetre grid.



(a) Write down the letters of the two shapes that are congruent.

..... and
(1)

Two of the seven shapes are similar but are not congruent.

(b) Write down the letters of these two shapes.

..... and
(1)

Shape **F** has exactly one line of symmetry.

(c) On shape **F** on the grid, draw this line of symmetry.

(1)

(d) Work out the perimeter of shape **B**.

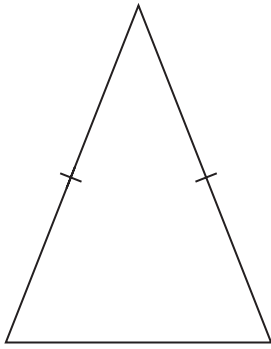
..... cm
(1)

(e) Work out the area of shape **G**.

..... cm²
(1)

(Total for Question 16 is 5 marks)

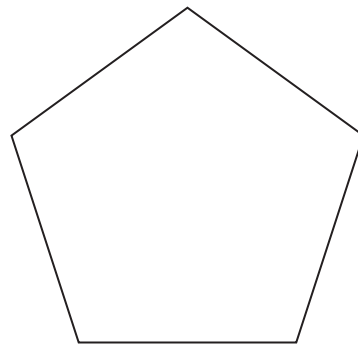
17 Here are three shapes.



A



B



C

Shape **A** is a triangle.

(a) Write down the mathematical name for this type of triangle.

.....
(1)

Shape **B** is a rectangle.

(b) On shape **B**, draw its lines of symmetry.

(1)

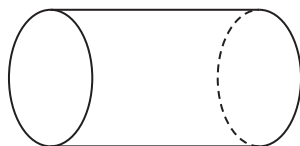
Shape **C** is a regular polygon.

(c) Write down the order of rotational symmetry of shape **C**.

.....
(1)

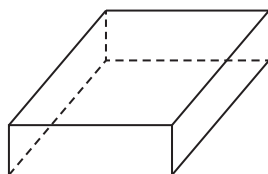
(Total for Question 17 is 3 marks)

- 18** (a) Write down the mathematical name of this 3-D shape.



.....
(1)

Here is a solid prism.



- (b) How many edges has the prism?

.....
(1)

(Total for Question 18 is 2 marks)

19 Here is a quadrilateral.

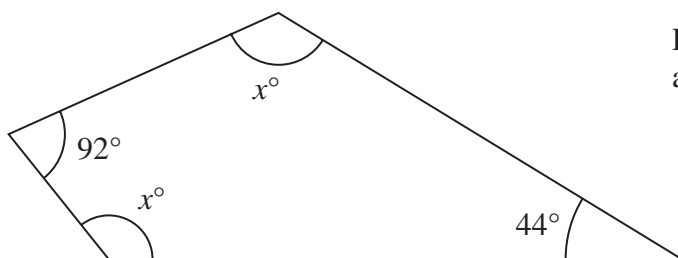


Diagram **NOT**
accurately drawn

(i) Work out the value of x

$x =$
(3)

(ii) Give a reason for your answer.

.....
(1)

(Total for Question 19 is 4 marks)

20 The diagram shows a regular octagon $ABCDEFGH$ and a regular pentagon $ABIJK$

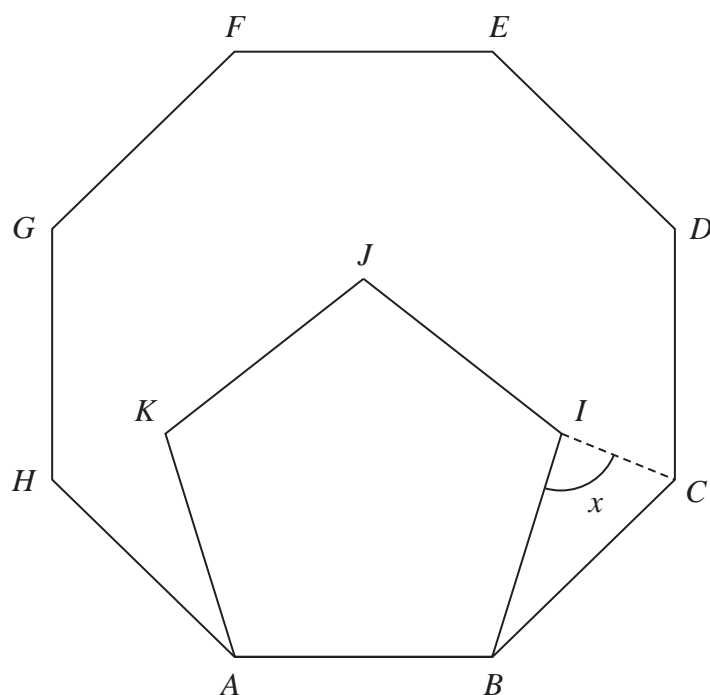
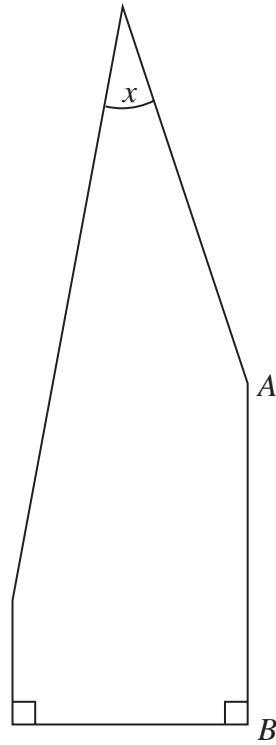


Diagram **NOT**
accurately drawn

Work out the size of the angle x

(Total for Question 20 is 4 marks)

21 The diagram shows a 5-sided polygon.



(c) On the diagram, mark with arrows (\gg) a pair of parallel sides.

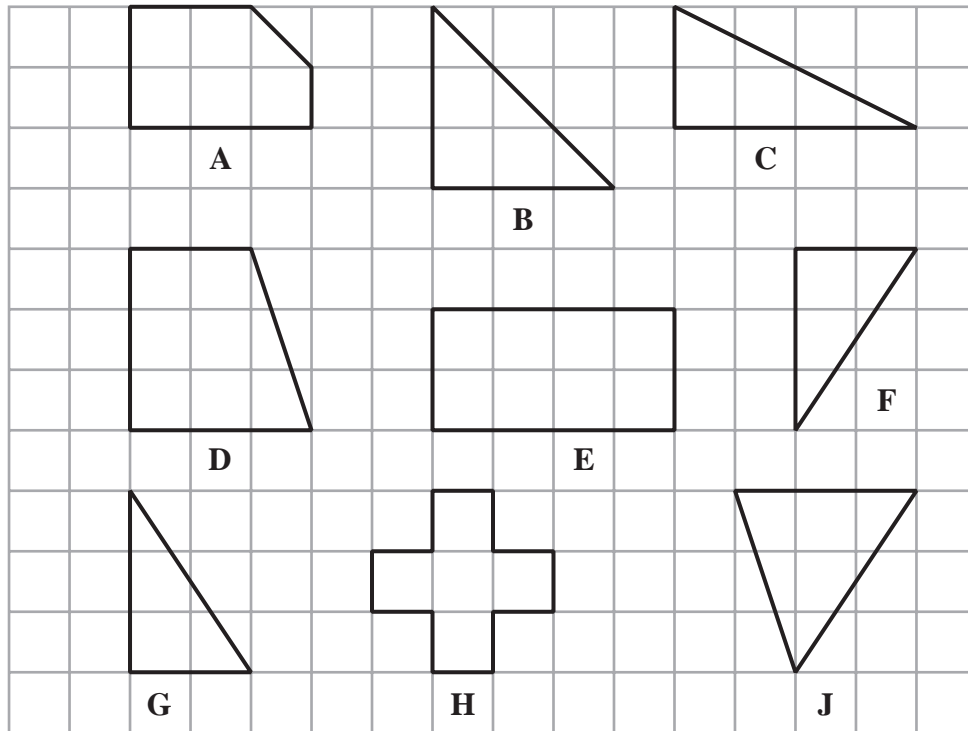
(1)

(d) Write down the mathematical name of a 5-sided polygon.

.....
(1)

(Total for Question 21 is 2 marks)

22 Here are nine shapes drawn on a grid of squares.



Shape **D** is a quadrilateral.

(a) What is the mathematical name of this quadrilateral?

.....
(1)

One of the shapes is congruent to shape **G**

(b) Write down the letter of this shape.

.....
(1)

(c) Write down the order of rotational symmetry of shape **H**

.....
(1)

(d) How many lines of symmetry has shape **E**?

.....
(1)

(Total for Question 22 is 4 marks)

23 The diagram shows a regular 10-sided polygon, $ABCDEFGHIJ$

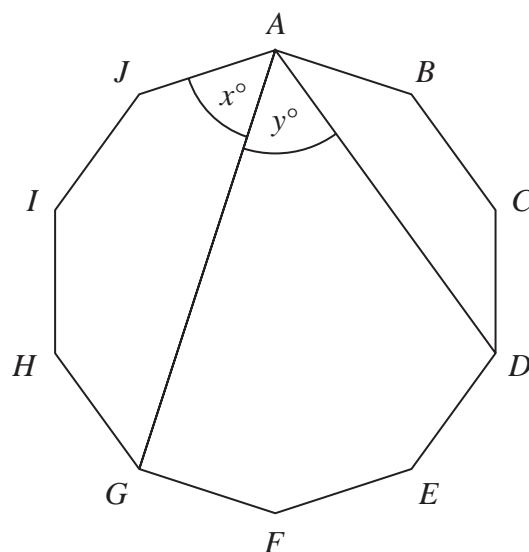
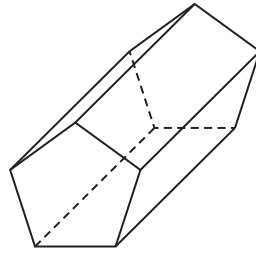


Diagram **NOT**
accurately drawn

Show that $x = y$

(Total for Question 23 is 4 marks)

- 24 (a) Write down the mathematical name of this 3-D shape.



.....
(1)

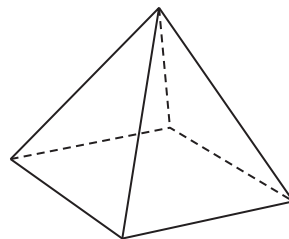
- (b) (i) How many faces does this shape have?

.....
(1)

- (ii) How many vertices does this shape have?

.....
(1)

Here is a different 3-D shape.



Marie makes a model of the shape.
She uses a length of wire to make each edge of the model.
Each edge of the model is 5 cm long.

Marie has 70 cm of wire.

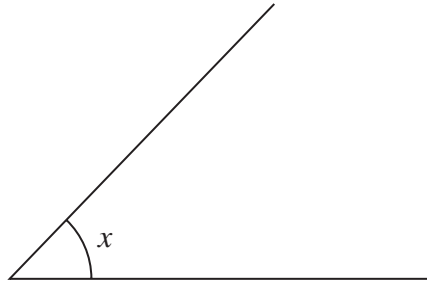
- (c) What length of wire does she have left after making the model?

..... cm
(2)

(Total for Question 24 is 5 marks)

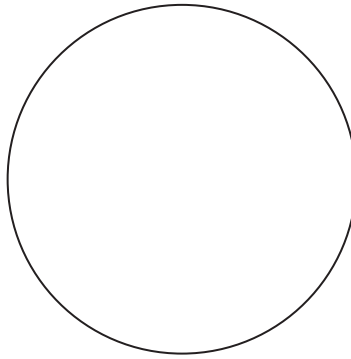
- 25 (a) Write down the mathematical name for an 8-sided polygon.

.....
(1)



- (b) What type of angle is the angle marked x ?

.....
(1)



- (c) On the diagram above, draw a chord of the circle.

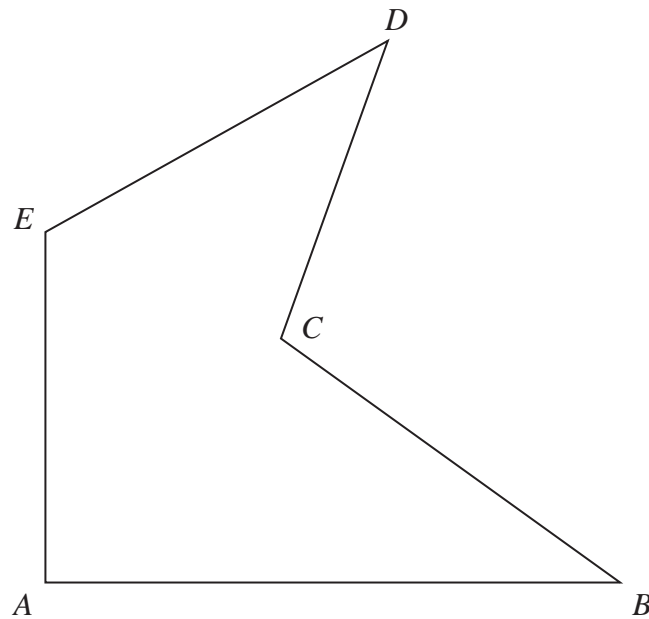
(1)

- (d) Change 3.6 metres into centimetres.

..... cm
(1)

(Total for Question 25 is 4 marks)

26 The diagram shows a 5-sided polygon, $ABCDE$



(a) Write down the mathematical name for a 5-sided polygon.

.....
(1)

(b) Measure the length of the line AB
Give your answer in centimetres.

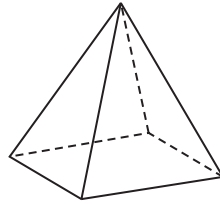
..... cm
(1)

(c) On the diagram, mark an obtuse angle with the letter T

(1)

(Total for Question 26 is 3 marks)

27 Here is a solid shape.



(a) Write down the number of edges of this shape.

.....
(1)

Here is a parallelogram.

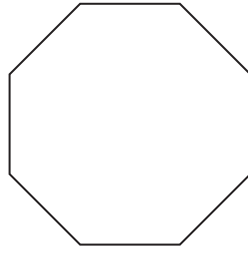


(c) Write down the order of rotational symmetry of the parallelogram.

.....
(1)

(Total for Question 27 is 2 marks)

- 28** (a) Write down the mathematical name of this polygon.



.....
(1)

(Total for Question 28 is 1 marks)