

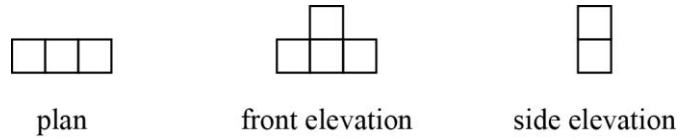
NAME

Time:

Non-Calculator Questions



1 Here are the plan, front elevation and side elevation of a 3D shape.

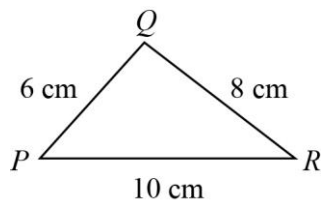


In the space below, draw a sketch of the 3D shape.



3

(2 marks)



PQR is a triangle.

$PQ = 6\text{ cm}$

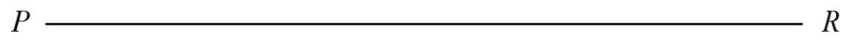
$QR = 8\text{ cm}$

$PR = 10\text{ cm}$.

3a Use ruler and compasses to construct an accurate drawing of triangle PQR .

The line PR has been drawn for you.

You must show all your construction lines.



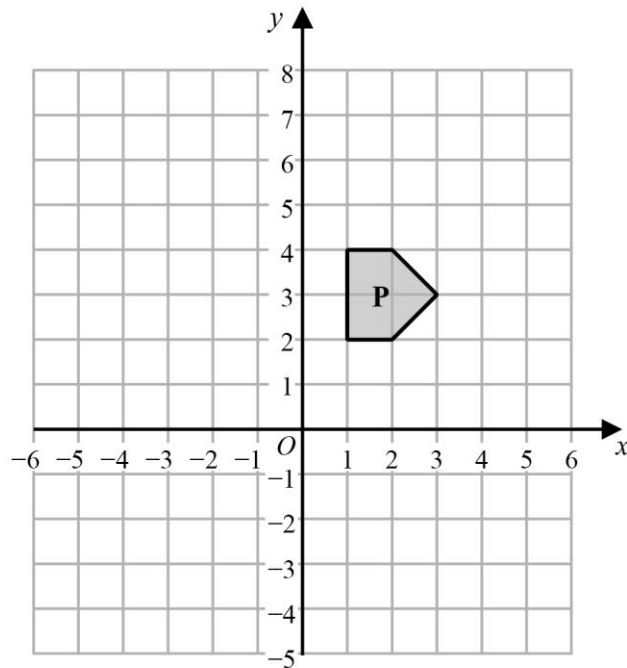
(2 marks)

3b Use ruler and compasses to construct the perpendicular bisector of the line QR .
You must show all your construction lines.

(2 marks)



5



5a On the grid, rotate the shaded shape **P** 90° clockwise about O . Label the new shape **Q**.

(2 marks)



5b On the grid, translate the shaded shape **P** by the vector $\begin{pmatrix} -3 \\ -4 \end{pmatrix}$.

Label the new shape **R**.

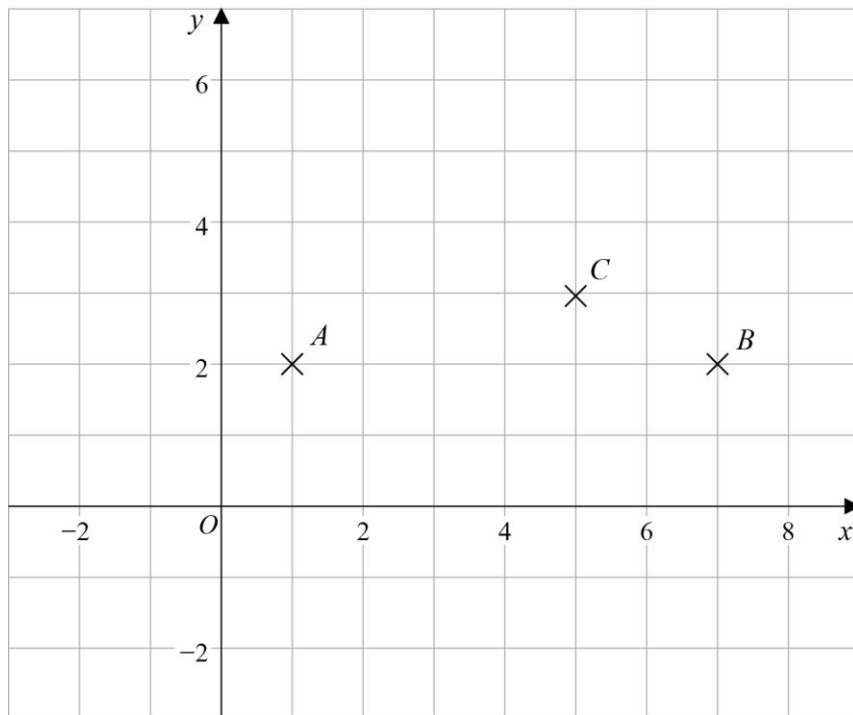
(2 marks)



7 The point *P* with coordinates $(-13, 9)$ is reflected in the line $y = -x$.

Without an accurate drawing as a sketch, write down the coordinates of the image of *P*.

9 The diagram shows three points *A*, *B* and *C* on a centimetre grid.



a On the grid, draw the locus of points which are equidistant from *A* and *B*.

(1 mark)



b On the grid, draw the locus of points which are 3 cm from *C*.

(1 mark)



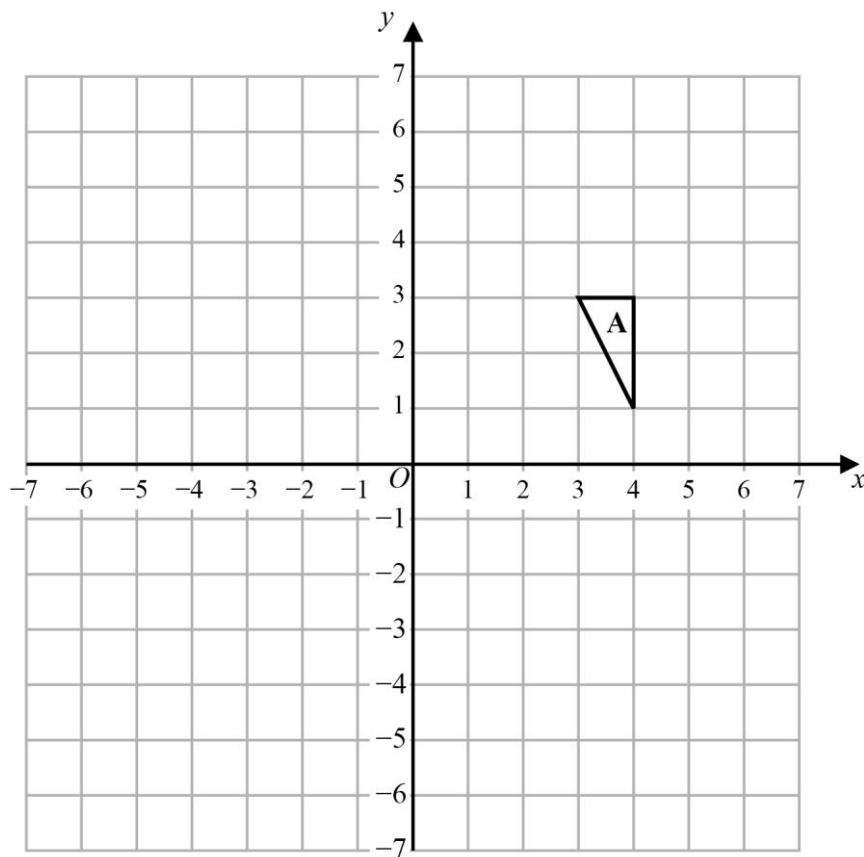
c On the grid, shade the region in which points are nearer to *A* than *B* and also less than 3 cm from *C*.

(1 mark)





11 The diagram shows triangle **A** drawn on a grid.

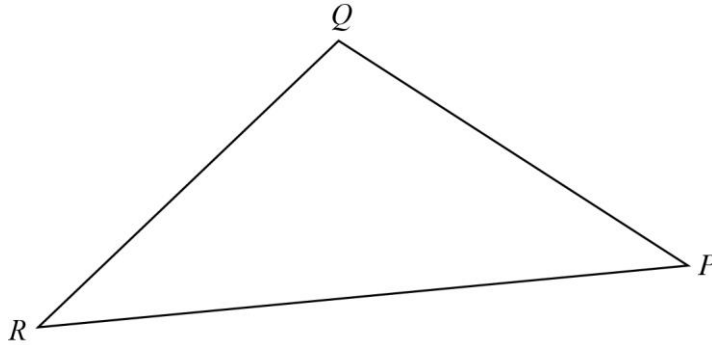


Sasha reflects triangle **A** in the line $x = 2$ to get triangle **B**.
 She then rotates triangle **B** 90° anticlockwise, centre O to get triangle **C**.
 Tom rotates triangle **A** 90° anticlockwise, centre O to get triangle **D**.
 He then reflects triangle **D** in the line $x = 2$ to get triangle **E**.
 Sasha says that triangle **E** should be in the same position as triangle **C**.
 Is Sasha correct?
 You must show how you get your answer.

(3 marks)



13



The diagram represents a triangular field PQR .

The scale of the diagram is 1 cm represents 10 m.

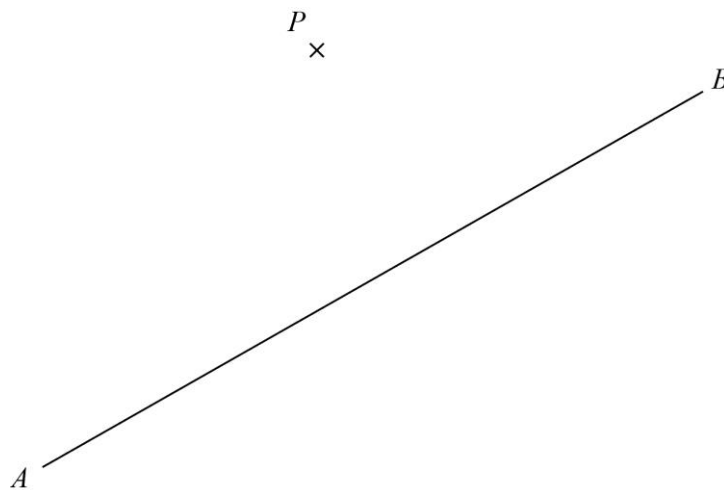
A tree is to be planted in the field so that it is nearer to PQ than to PR , within 40 m of point P .

On the diagram, shade the region where the tree may be planted.

(3 marks)



15



Use ruler and compasses to **construct** a line from the point P perpendicular to the line AB

You must show all your construction lines.

(2 marks)



| | |
|--------------|---|
| Overall mark | / |
|--------------|---|