

8300

GCSE MATHEMATICS

Foundation – Questions by Topic

Algebra

Reading and plotting coordinates & Recognising horizontal and vertical lines (including $y=x$ and $y=-x$)

v1.0

Name _____

Materials

For this paper you must have:

- Mathematical instruments

Information

- The marks for questions are shown in brackets

Advice

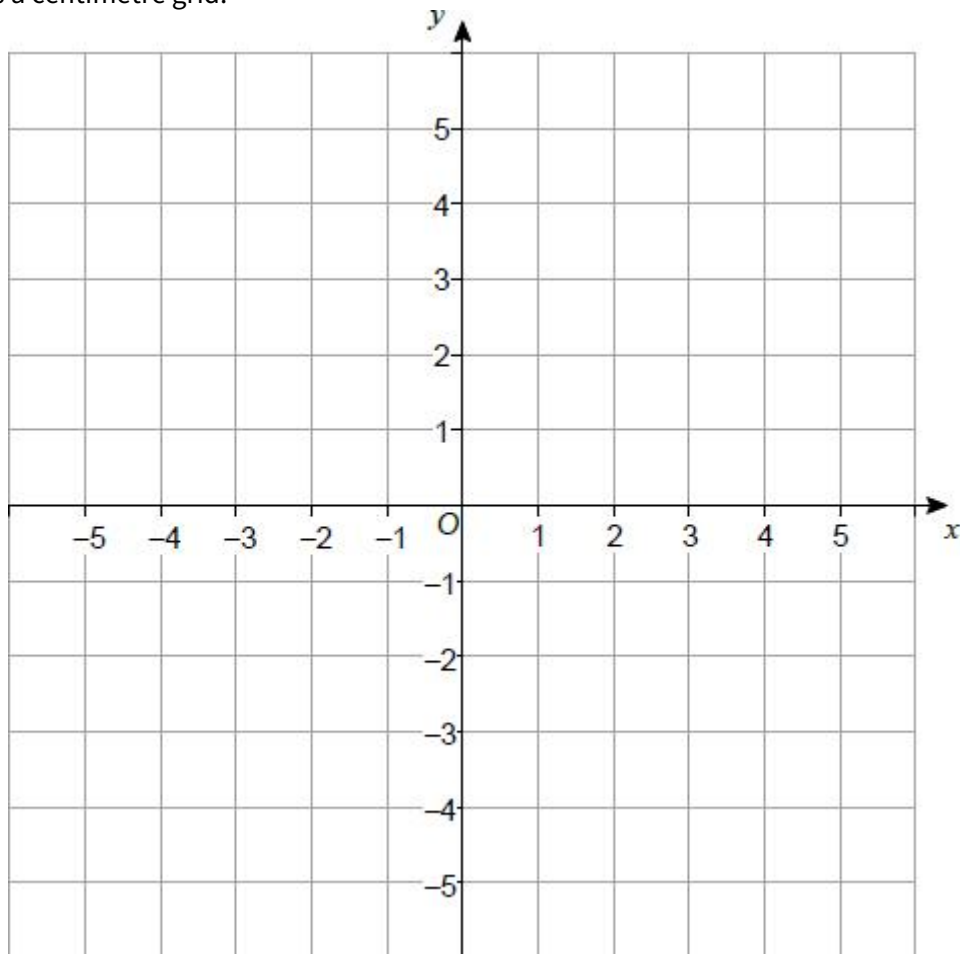
- In all calculations, show clearly how you work out your answer

For questions 1 to 3 you must **NOT** use a calculator.



Q1.

Here is a centimetre grid.



$A(5, 3)$, $B(5, -3)$ and $C(-5, 0)$ are three points.

What type of triangle is ABC ?

You **must** show your working, which may be on the diagram.

(Total 2 marks)

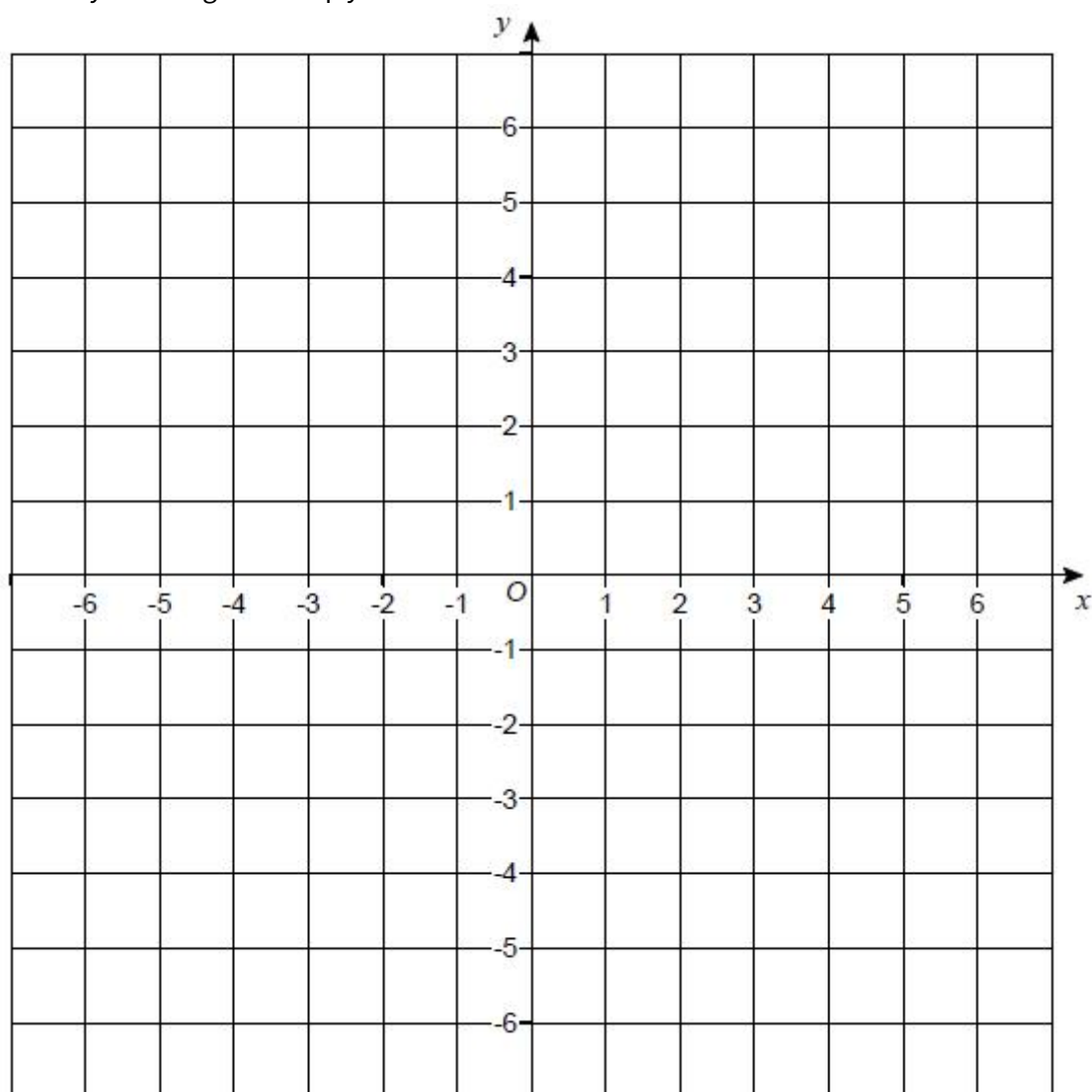
Q2.

A straight line passes through the points $(-1, 2)$ and $(1, 6)$

Another straight line has equation $y = x$

Work out the coordinates of the point where line A crosses line B.

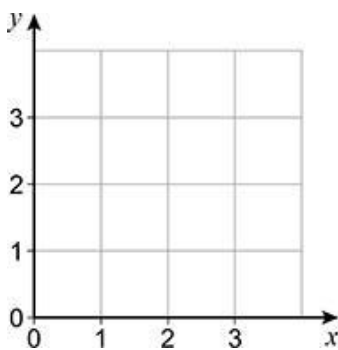
You may use the grid to help you.



(Total 4 marks)

Q3.

Here is a grid.



There are **four** points on this grid that each have
both coordinates that are whole numbers
and
 $x\text{-coordinate} + y\text{-coordinate} = 3$

Plot the **four** points on the grid.

(Total 2 marks)

For the rest of the questions, you may use a calculator.



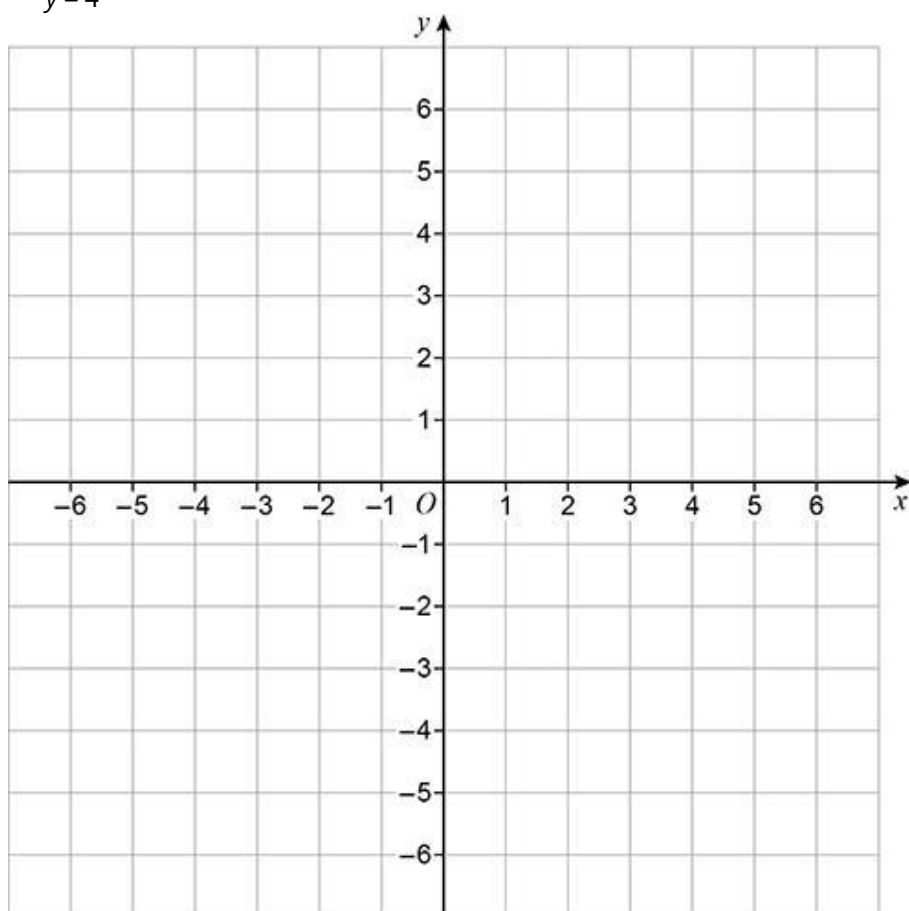
Q4.

A triangle is drawn using the lines

$$y = x$$

$$x = -2$$

$$y = 4$$



Work out the coordinates of the **three** vertices of the triangle.

(Total 4 marks)

Q5.

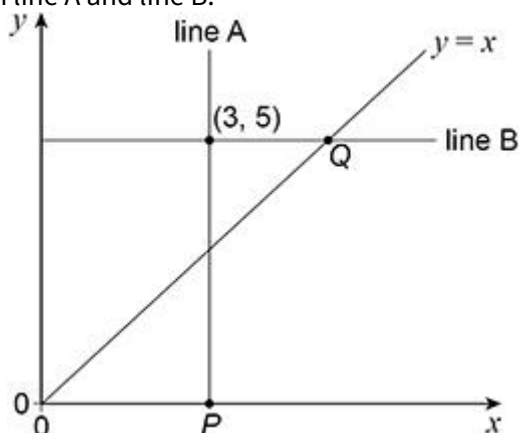
The sketch shows

the line $y = x$

line A, which is vertical

line B, which is horizontal.

The point $(3, 5)$ is on both line A and line B.

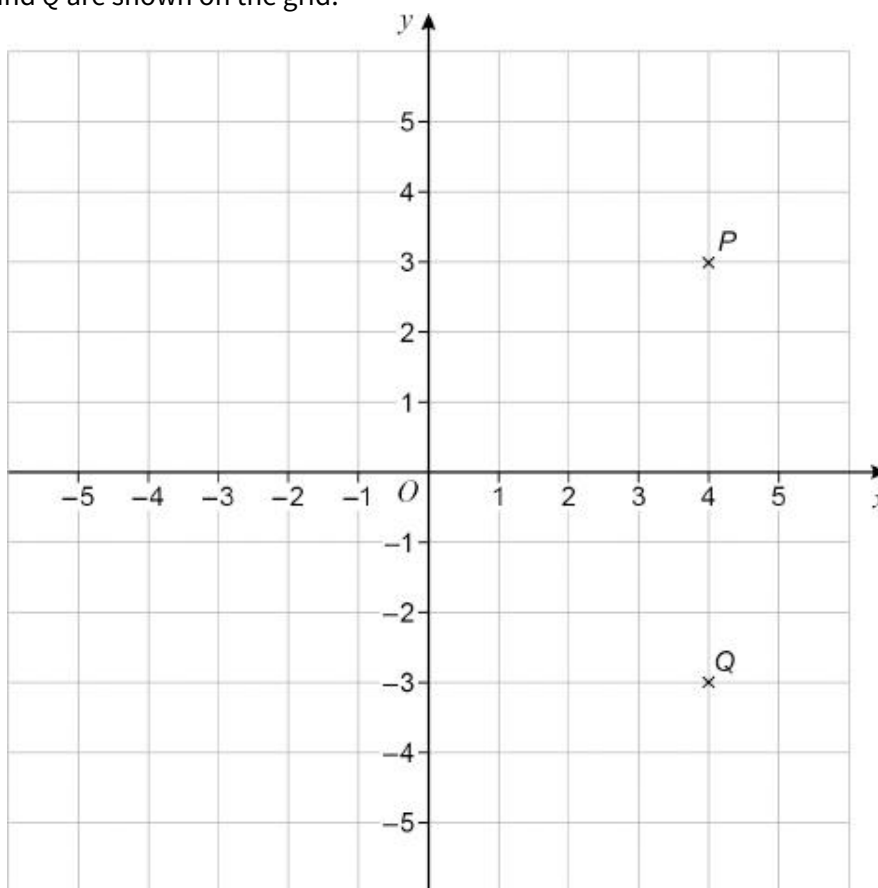


Write down the coordinates of P and Q .

(Total 2 marks)

Q6.

Points P and Q are shown on the grid.



(a) Write down the coordinates of P .

(1)

(b) Angle PQR is a right angle.
Work out possible coordinates for R .

(1)

(Total 2 marks)

Reading and plotting coordinates & Recognising horizontal and vertical lines (including $y=x$ and $y=-x$) – Cross-topic questions

Q7.

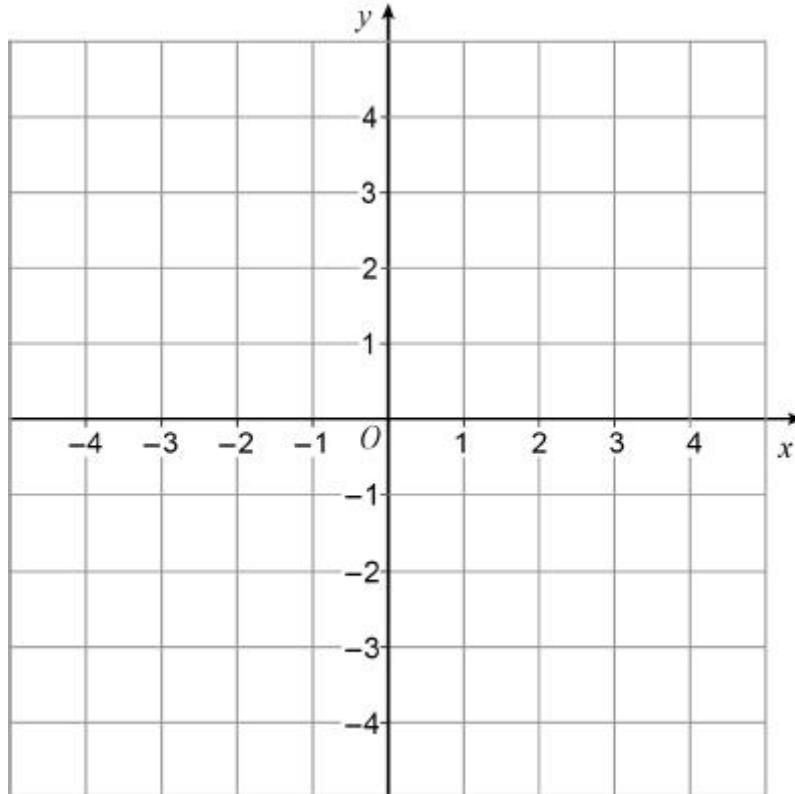
ABC is a right-angled triangle.

A is the point $(-3, -2)$

B is the point $(1, -2)$

C is a point on the line $y = 4$

- (a) Draw triangle ABC on the centimetre grid below.



- (b) Work out the area of triangle ABC .

(3)

(2)

(Total 5 marks)