Coordinate Geometry

Question Paper

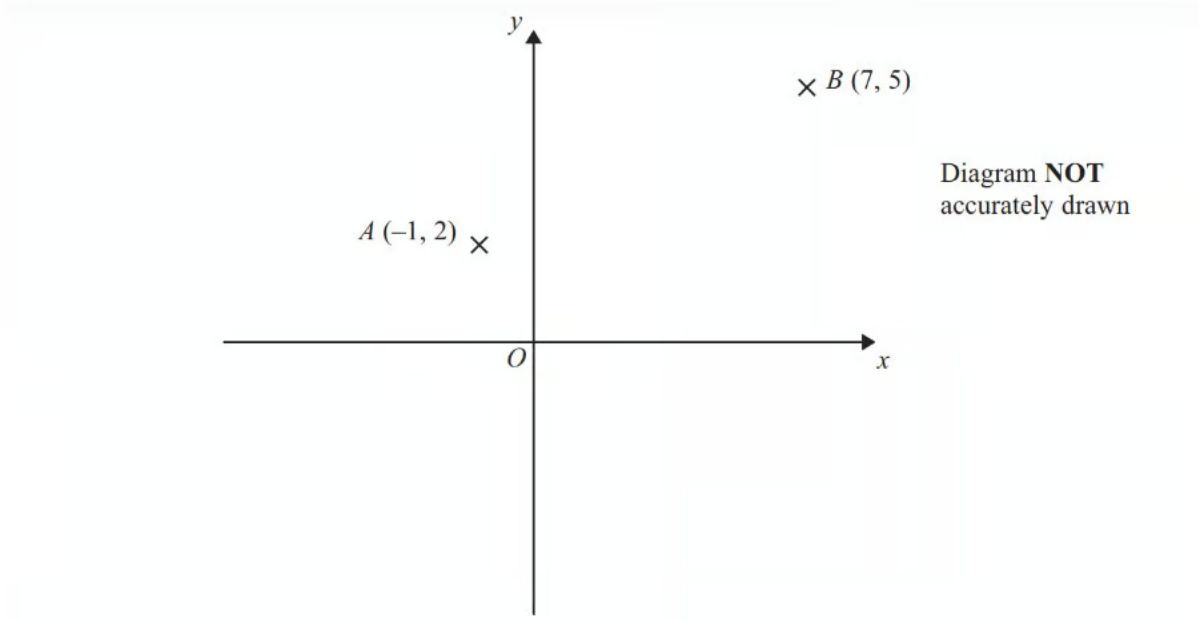
Course	Edexcel IGCSE Maths
Section	3. Sequences, Functions & Graphs
Topic	Coordinate Geometry
Difficulty	Medium

Time allowed: 40

Score: /27

Percentage: /100

Question 1a



A is the point $(-1, 2)$
B is the point $(7, 5)$

Find the coordinates of the midpoint of AB.

[2 marks]

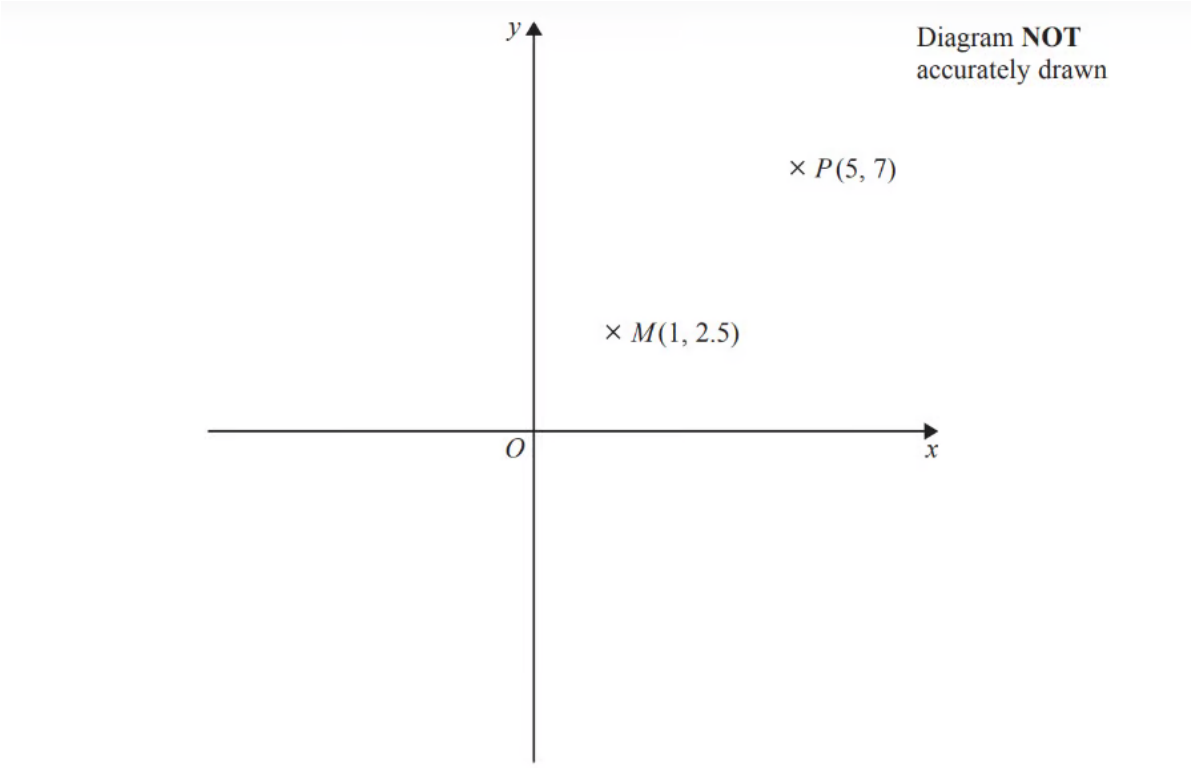
Question 1b

P is the point $(-4, 4)$
Q is the point $(1, -5)$

Find the gradient of PQ.

[2 marks]

Question 2



Point P has coordinates (5, 7).
Point M has coordinates (1, 2.5).

Point M is the midpoint of the line PQ.

Find the coordinates of point Q.

[2 marks]

Question 3

Point A has coordinates $(-3, 11)$
Point B has coordinates $(47, b)$
The midpoint of AB has coordinates $(a, -19)$

Find the value of a and the value of b.

a = ...
b = ...

[2 marks]

Question 4

AB is a line segment.

A is the point with coordinates (3, 6, 7).
The midpoint of *AB* has coordinates (–2, 2, 5).

Find the coordinates of *B*.

[2 marks]

Question 5

Here is a cuboid drawn on a 3–D grid.

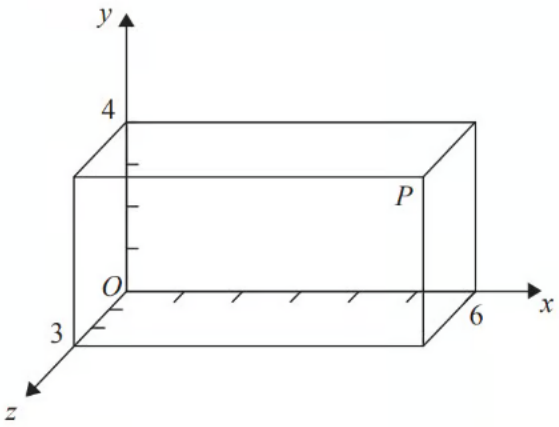


Diagram **NOT** accurately drawn

P is a vertex of the cuboid.

T divides the line OP in the ratio 1 : 2

Find the coordinates of T.

[2 marks]

Question 6

The points A, B and C lie in order on a straight line.

The coordinates of A are $(2, 5)$
The coordinates of B are $(4, p)$
The coordinates of C are $(q, 17)$

Given that $AC = 4AB$, find the values of p and q.

[3 marks]

Question 7

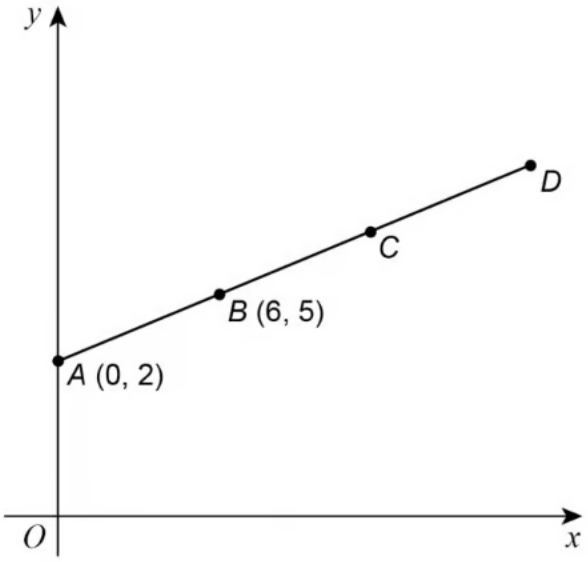
P is the point $(2, 14)$
Q is the point $(6, 8)$
R is the point $(2, 5)$

Use gradients to show that angle PQR is not a right angle.

[3 marks]

Question 8

A (0, 2) and B (6, 5) are points on the straight line $ABCD$.



Not drawn accurately

$AB = BC = CD$

Work out the coordinates of D.

[3 marks]

Question 9a

A is the point (2, –5)

B is the point (4, –9)

Show that the gradient of the straight line passing through A and B is –2

[2 marks]

Question 9b

C is the point (−301, 601)

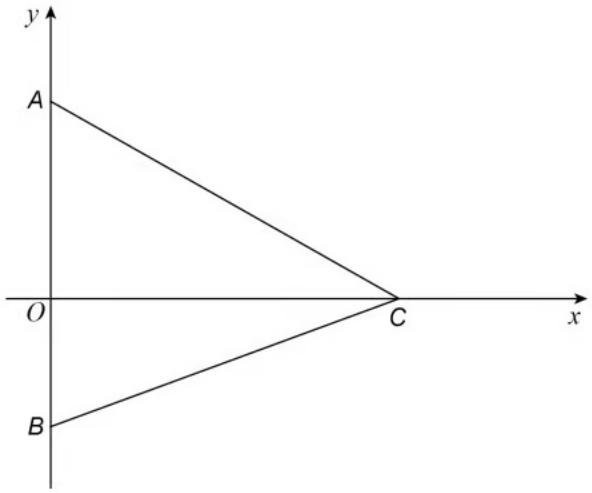
Does C lie on the straight line passing through A and B?

You **must** show your working.

[2 marks]

Question 10

A, B and C are points on the axes as shown.



Not drawn accurately

The area of triangle ABC is 28 square units.

Work out possible coordinates for A, B and C.

A (..... , ...)

B (..... , ...)

C (..... , ...)

[2 marks]