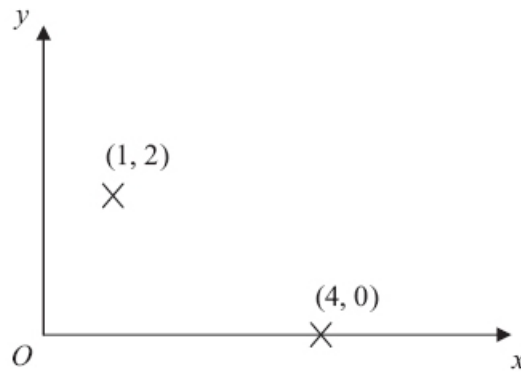# TAKE 5 ... COORDINATES

Q1. Find the coordinates of the midpoint of the line joining the points (1, 2) and (4, 0).

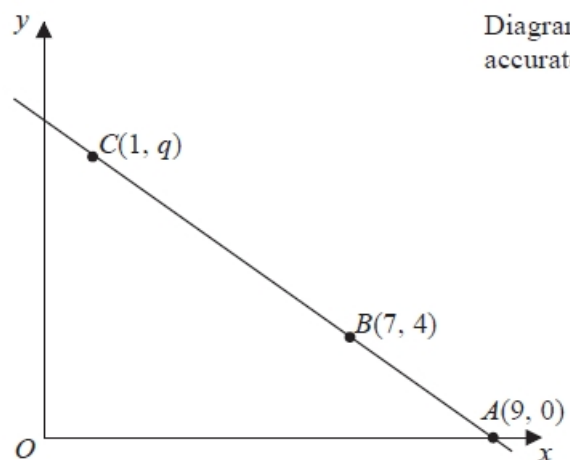**(2)**

Q2. The points *A*, *B* and *C* lie on a straight line.

The coordinates of *A* are (9, 0).
The coordinates of *B* are (7, 4).
The coordinates of *C* are (1, *q*).

Work out the value of *q*.

Diagram **NOT** accurately drawn

(3)

Q3. 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* = 4*AB*, find the values of *p* and *q*.

(3)

Q4. *AB* is a line segment.

The midpoint of the line segment *AB* has coordinates (3, 5)
Point *A* has coordinates (9, 2)
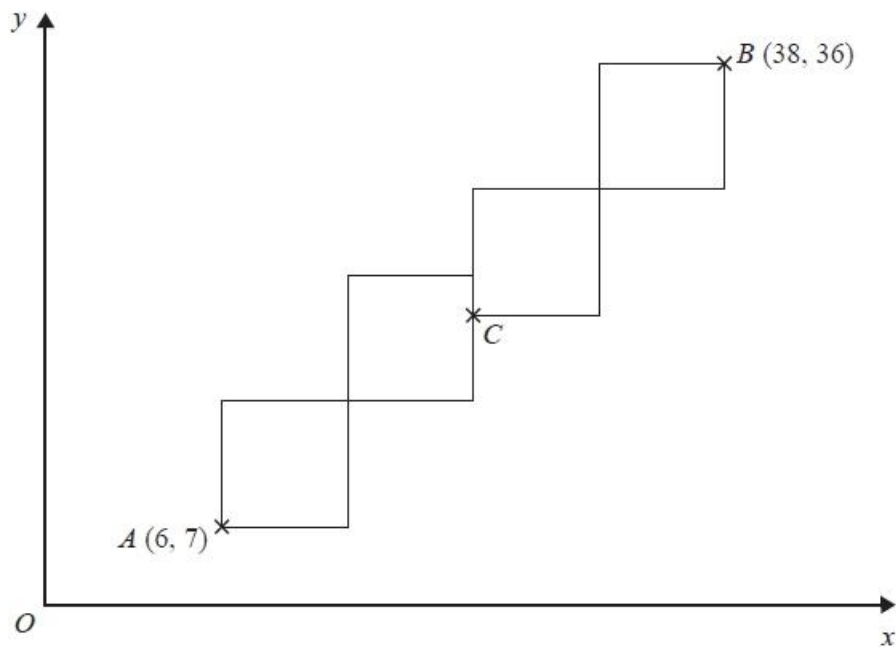
(a) Work out the coordinates of point *B*.

(2)

(b) Work out an equation of the straight line that passes through (9, 2) and (3, 5)

(3)

Q5. A pattern is made from four identical squares. The sides of the squares are parallel to the axes.

Point *A* has coordinates (6, 7)
Point *B* has coordinates (38, 36)
Point *C* is marked on the diagram.

Work out the coordinates of *C*.

(5)