

Surname	
Other Names	
Candidate's Signature	

## GCSE 9 - 1 Questions

### Midpoint of a Line

**Calculator Allowed**

#### INSTRUCTIONS TO CANDIDATES

Write your name in the space provided.

Write your answers in the spaces provided in this question paper.

Answer ALL questions.

Any working should be clearly shown in the spaces provided since marks may be awarded for partially correct solutions.

You should have a ruler, compass and protractor where required.

**Total Marks :**

- 1) C and D are the points (6, 4) and (2, -2) respectively.  
Find the co-ordinates of the midpoint of CD.  
**Show your working.**

Answer ( \_\_\_\_\_ , \_\_\_\_\_ ) [2]

- 2) (a) Find the midpoint of the line joining the points A (-1, 6) and B (3, -2).

Answer ( \_\_\_\_\_ , \_\_\_\_\_ ) [2]

- (b) The point M (4, 1) is the midpoint of the line joining the points C and D.  
C is the point (1, -1).

Find the coordinates of the point D.

Answer ( \_\_\_\_\_ , \_\_\_\_\_ ) [2]

- 3) The point A has co-ordinates (4, 3) and the point B has co-ordinates (-2, 7). Find the co-ordinates of the mid-point of the line AB.

Answer \_\_\_\_\_ [2]

- 4) P is the point  $(-4, -2)$ . Q is the point  $(6, -8)$ . Find the co-ordinates of the midpoint of PQ.

Answer ( \_\_\_\_\_ , \_\_\_\_\_ ) [2]

- 5) P is the point  $(8, -1)$  and Q is the point  $(-2, 3)$

Find the co-ordinates of the midpoint of the line PQ.

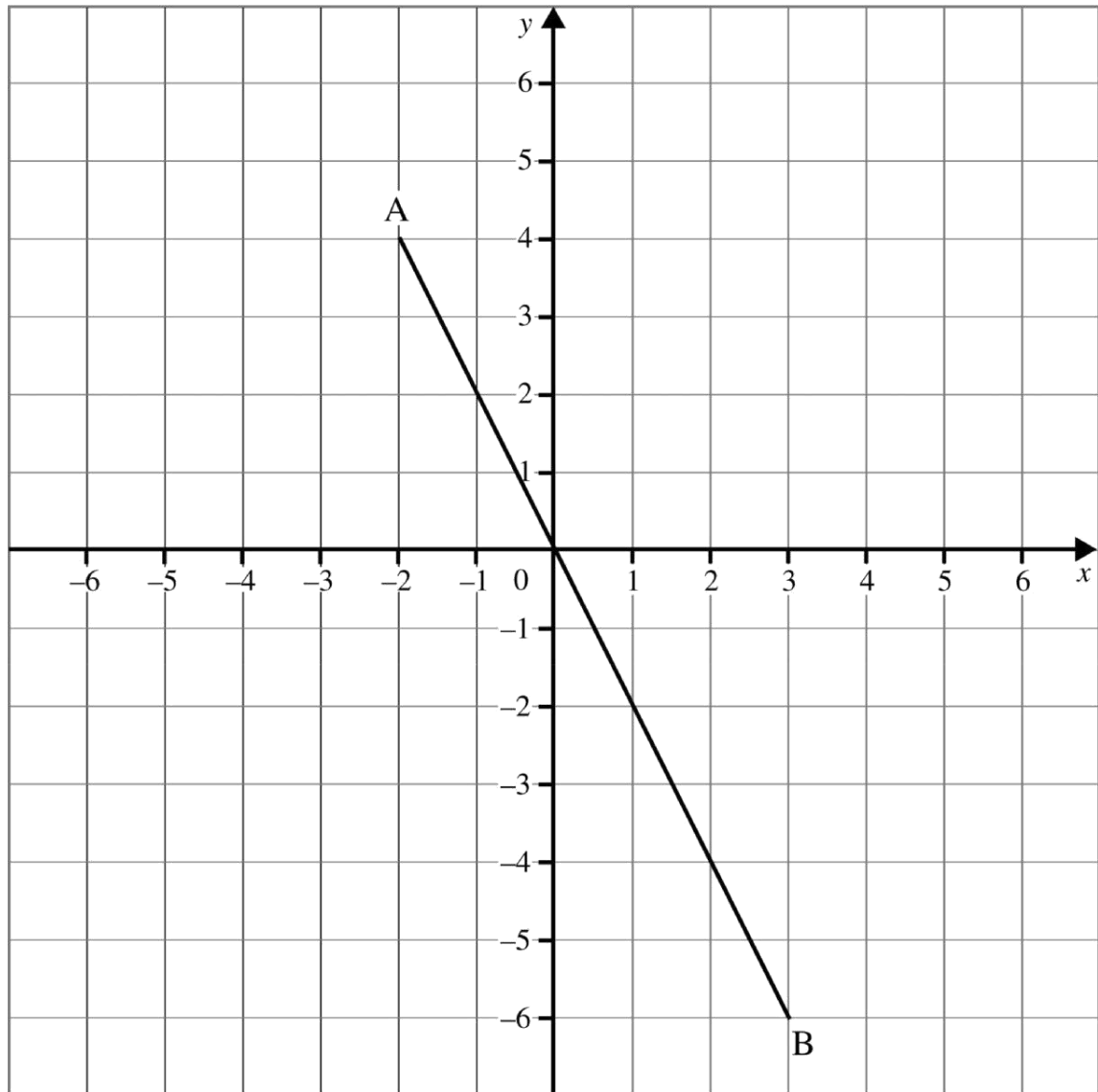
Answer ( \_\_\_\_\_ , \_\_\_\_\_ ) [2]

- 6) P has co-ordinates  $(4, -6)$  and Q has co-ordinates  $(8, 2)$ .

Calculate the co-ordinates of M, the midpoint of PQ.

Answer ( \_\_\_\_\_ , \_\_\_\_\_ ) [2]

7)

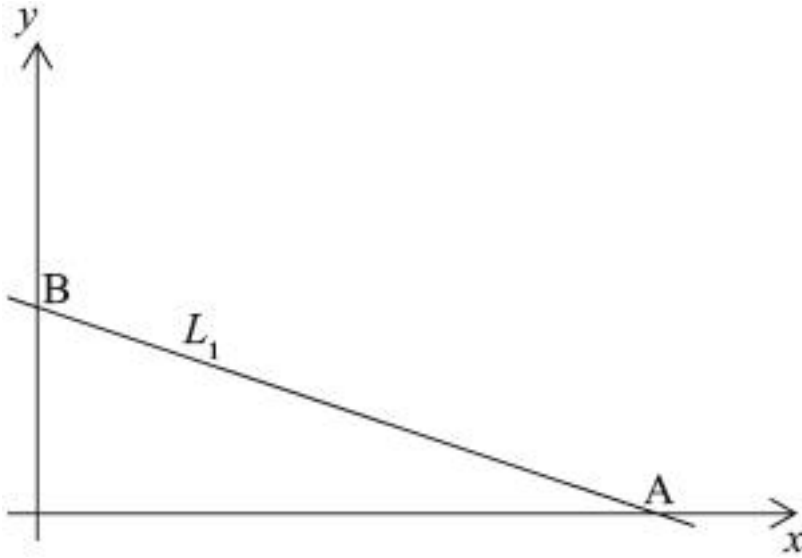


A is the point  $(-2, 4)$ . B is the point  $(3, -6)$ .

Find the midpoint of AB.

Answer (\_\_\_\_, \_\_\_\_) [2]

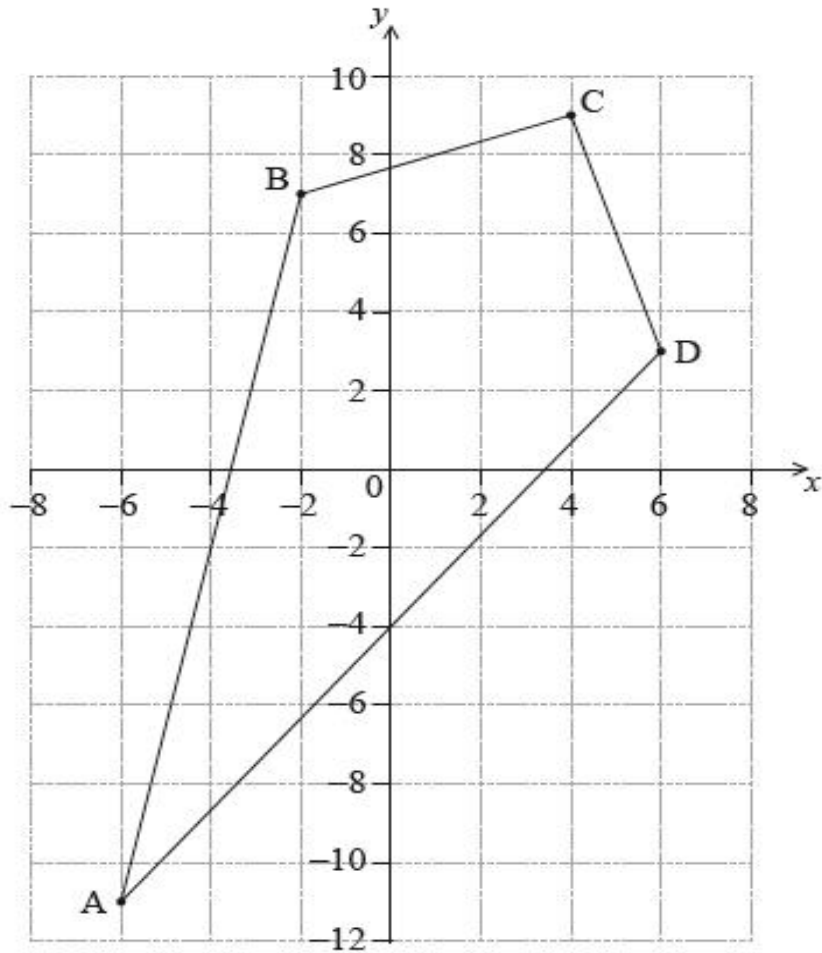
- 8) The diagram shows the straight line  $L_1$ , which intersects the x-axis at A (6,0) and the y-axis at B (0,2) .



Write down the coordinates of M, the midpoint of line segment AB.

Answer (      ,      ) [2]

- 9) The four points  $A(-6, -11)$ ,  $B(-2, 7)$ ,  $C(4, 9)$  and  $D(6, 3)$  define the vertices of a kite.



- a) Calculate the midpoint of points  
i. B and D

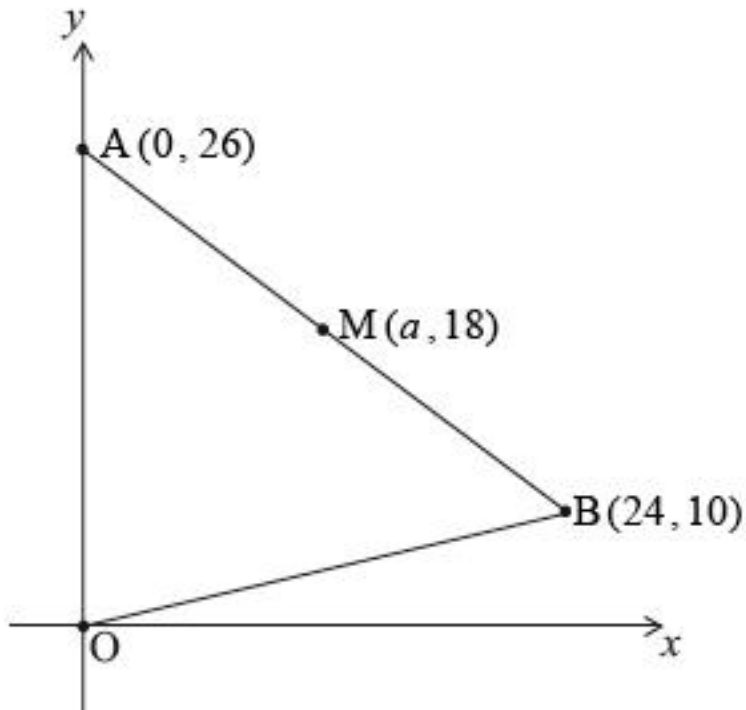
Answer (     ,     ) [2]

- ii. A and C

Answer (     ,     ) [2]

- 10) The diagram shows the points  $M(a, 18)$  and  $B(24, 10)$ . The straight line  $BM$  intersects the  $y$ -axis at  $A(0, 26)$ .  $M$  is the midpoint of the line segment  $AB$ .

*diagram not to scale*



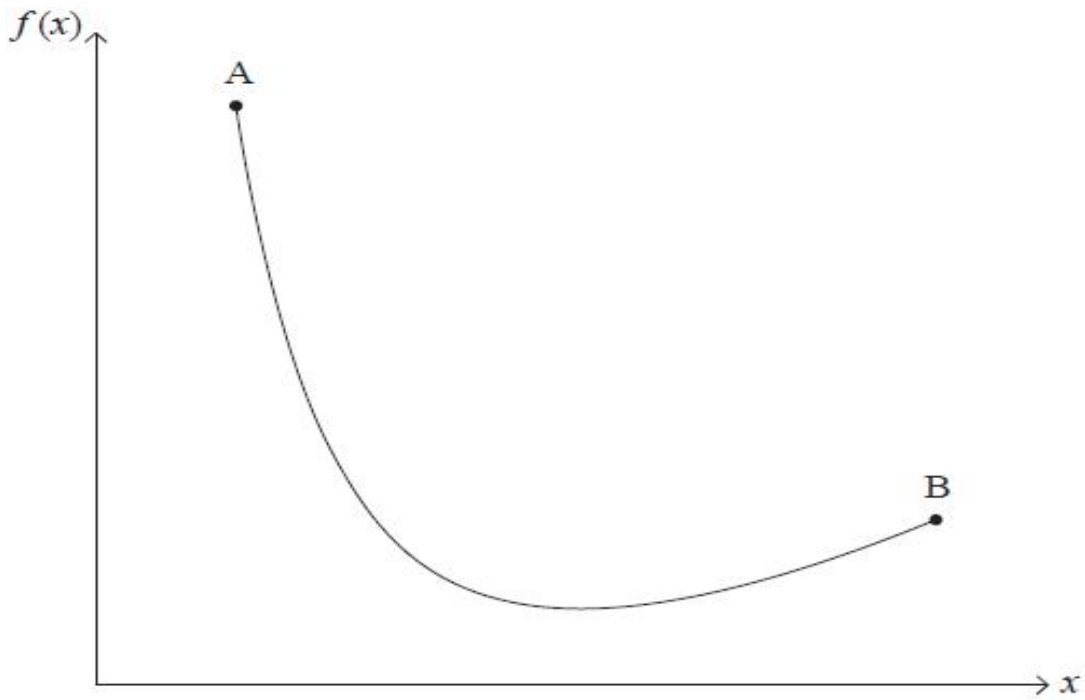
- a) Write down the value of  $a$

Answer (     ,     ) [2]

- b) The line segment  $CB$  has the point  $O$  as its midpoint. What is the coordinate of point  $C$ .

Answer (     ,     ) [2]

11) The graph of a function is shown below.



The points A and B have the coordinates (3,7) and (9,1) respectively. What is the coordinate of the midpoint between A and B?

Answer (     ,     ) [2]



12) The coordinates of point A are  $(-4, p)$  and the coordinates of point B are  $(2, -3)$ . The mid-point of the line segment AB, has coordinates  $(q, 1)$ . Find the value of

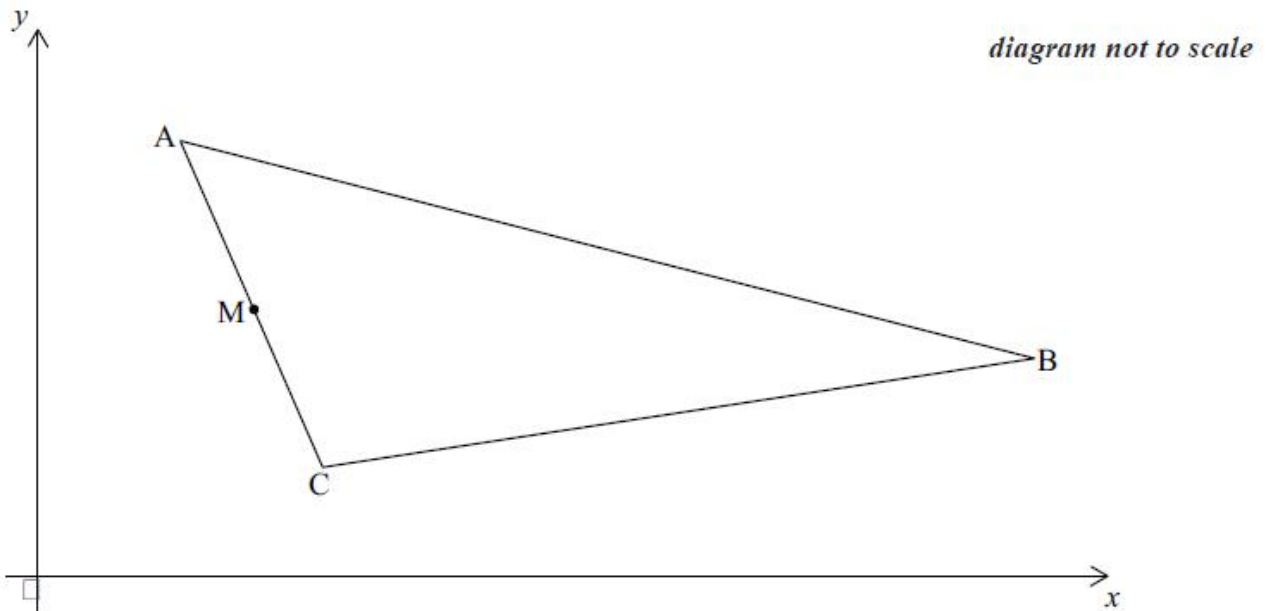
a)  $q$

Answer : \_\_\_\_\_ [2]

b)  $p$

Answer : \_\_\_\_\_ [2]

- 13) The diagram shows points  $A(2, 8)$ ,  $B(14, 4)$  and  $C(4, 2)$ .  $M$  is the midpoint of  $AC$ .



Write down the coordinates of  $M$

Answer (     ,     ) [2]

14) The mid-point, M, of the line joining A( $s$ , 8) to B( $-2$ ,  $t$ ) has coordinates M(2, 3). Calculate the values of  $s$  and  $t$

a)  $s$

Answer : \_\_\_\_\_ [2]

b)  $t$

Answer : \_\_\_\_\_ [2]

15) P (4, 1) and Q (0, -5) are points on a straight line. Determine the coordinates of the midpoint of PQ.

Answer (     ,     ) [2]