

Coordinate Geometry Problems

For AQA Level 2 Certificate in Further Mathematics (8365)

Name _____

Total marks: **29**

Answer **all** questions in the spaces provided. Show your working: marks are given for correct method. You may use a calculator.

1 A is the point $(-5, 2)$ and B is the point $(3, -6)$

(a) Work out the coordinates of the midpoint of AB .

[1 mark]

Answer (_____ , _____)

(b) Work out the length of AB .

Give your answer in the form $a\sqrt{b}$ where a and b are integers.

[2 marks]

Answer _____

2 P is the point $(-3, 7)$ and Q is the point $(9, -1)$

R lies on the line segment PQ so that $PR:RQ = 3:1$

Work out the coordinates of R .

[2 marks]

Answer (_____ , _____)

- 3** The point P lies on the positive x -axis.
The distance from P to the point $A(4, 6)$ is 10
Work out the coordinates of P .

[3 marks]

Answer (_____ , _____)

- 4** A is the point $(-4, -1)$, B is the point $(2, 3)$ and C is the point $(11, 9)$
Show that A , B and C lie on a straight line.

[3 marks]

- 5** A is the point $(-3, 2)$, B is the point $(1, 5)$ and C is the point $(4, 1)$
(a) Show that triangle ABC is right-angled.

[3 marks]

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

[2 marks]

Answer _____ units²

- 6** A is the point $(-5, 6)$ and B is the point $(3, 2)$
The point M lies on the straight line through A and B , beyond B , so that
 $AM:MB = 7:3$
Work out the coordinates of M .

[3 marks]

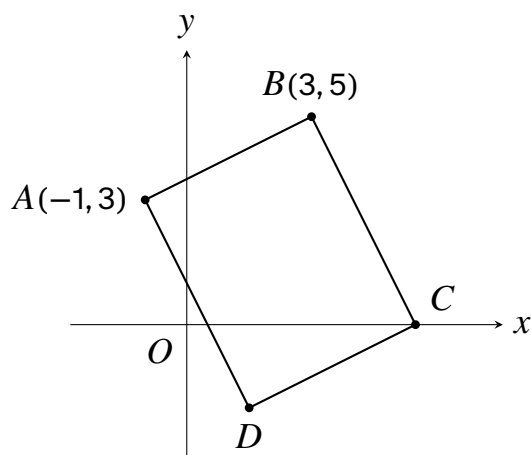
Answer (_____ , _____)

- 7** A is the point $(-2, 5)$ and B is the point $(6, 1)$
The perpendicular bisector of AB crosses the y -axis at the point C .
Work out the coordinates of C .

[4 marks]

Answer (_____ , _____)

- 8** $ABCD$ is a rectangle.
 A is the point $(-1, 3)$ and B is the point $(3, 5)$
 C lies on the x -axis.



Not drawn accurately

- (a) Work out the coordinates of C .

[3 marks]

Answer (_____ , _____)

- (b) Work out the coordinates of D .

[1 mark]

Answer (_____ , _____)

- (c) Work out the area of the rectangle.

[2 marks]

Answer _____ units²