CARTESIAN GRAPHS

1) **Plot and label the following points on the coordinare grid shown below.**
   a. A (2, 5)   d. D (4, 0)
   b. B (3, 10)   e. E (9, 4)
   c. C (0, 8)
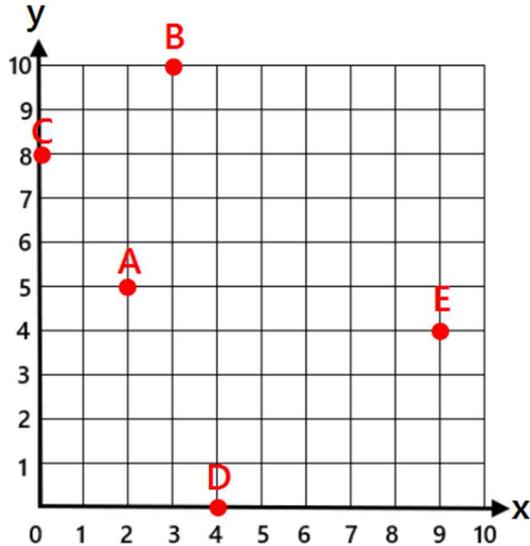
2) **Plot and label the following points on the coordinare grid shown below.**
   a. A (-2, 3)   e. E (0, -9)
   b. B (-7, 7)   f. F (2, -3)
   c. C (-8, -5)   g. G (6, -1)
   d. D (5, 9)
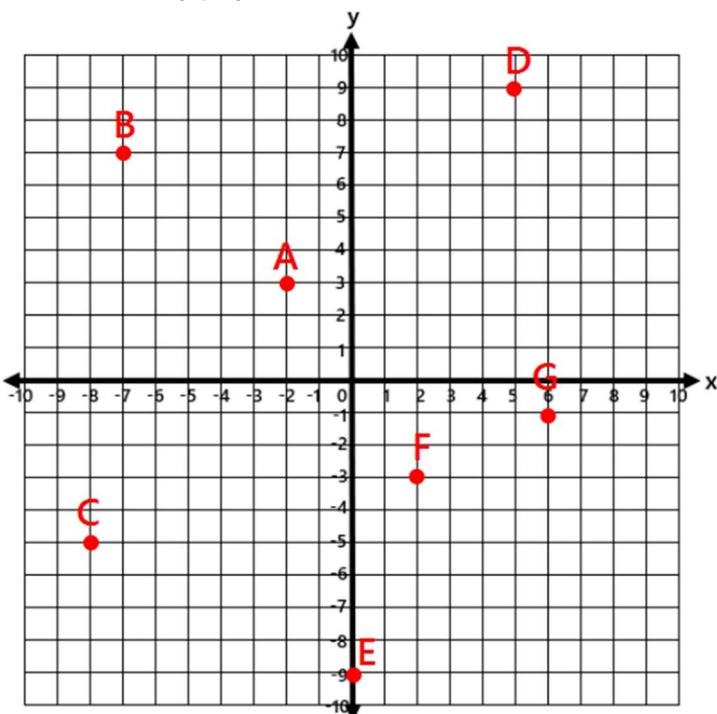
3) **Use the coordinate grid shown below to state the coordinates of the points:**
   a. A **(1, 1)**   e. E **(9, 2)**
   b. B **(2, 9)**   f. F **(4, 3)**
   c. C **(8, 9)**   g. G **(2, 4)**
   d. D **(6, 5)**
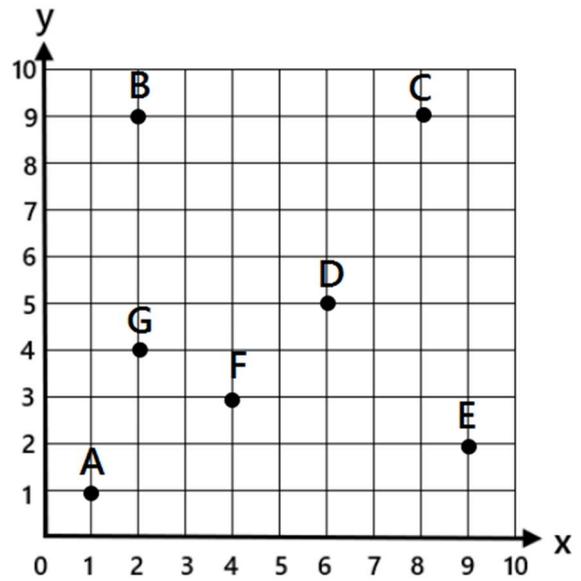
4) **Use the coordinate grid shown below to state the coordinates of the points:**
   a. A **(1, 1)**   e. E **(-4, 4)**
   b. B **(3, 3)**   f. F **(-3, 2)**
   c. C **(2, -3)**   g. G **(-3, -3)**
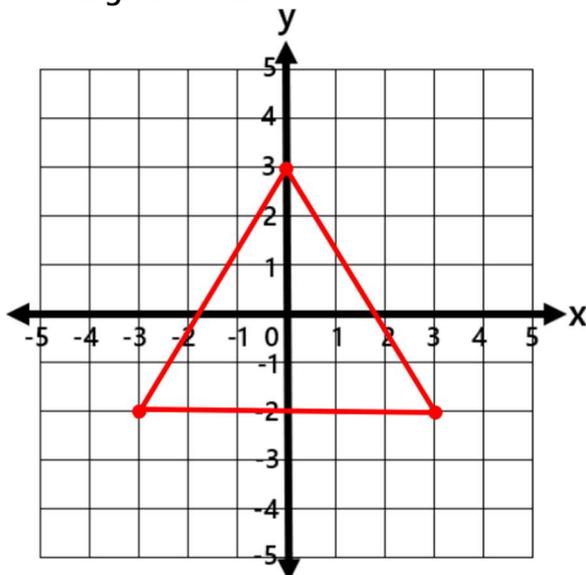   d. D **(4, -4)**
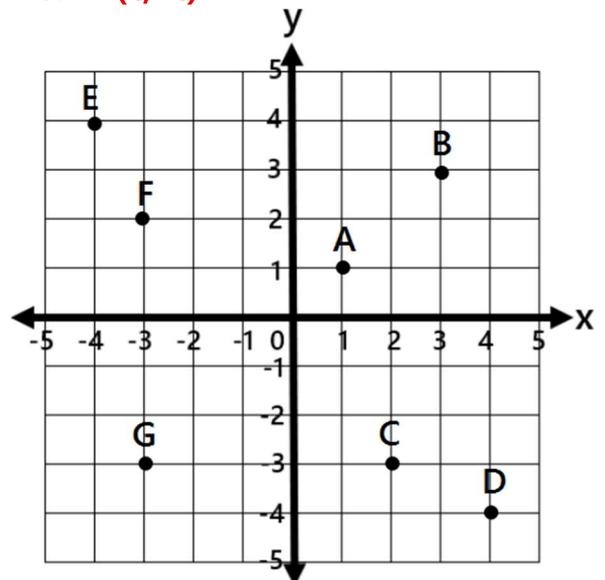
5) Three points are plotted on the coordinate grid shown below. State the coordinates of the point that would form a square.
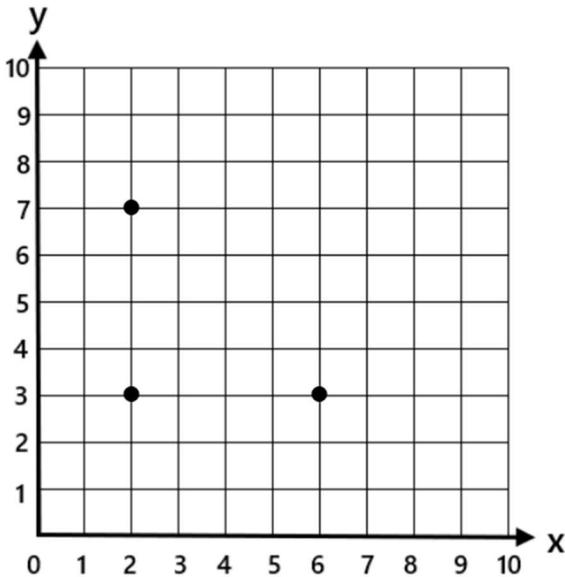
(6, 7)

6) Plot the following points on the coordinate grid shown below:
   a. (0, 3)
   b. (-3, -2)
   c. (3, -2)
   d. Connect the points in the order shown above, to form a triangle. What type of triangle is shown?
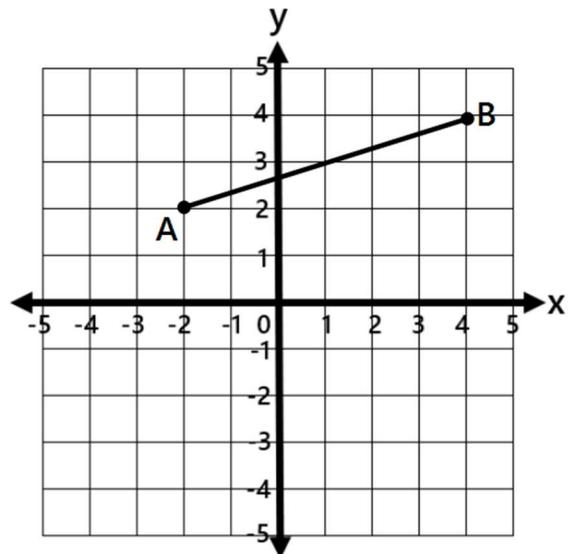

Isosceles triangle

7) Plot the following points on the coordinate grid shown below:
   a. (-3, 4)
   b. (-3, 0)
   c. (5, 0)
   d. (5, 4)
   e. Connect the points, in the order shown above to form a quadrilateral. What type of quadrilateral is shown?
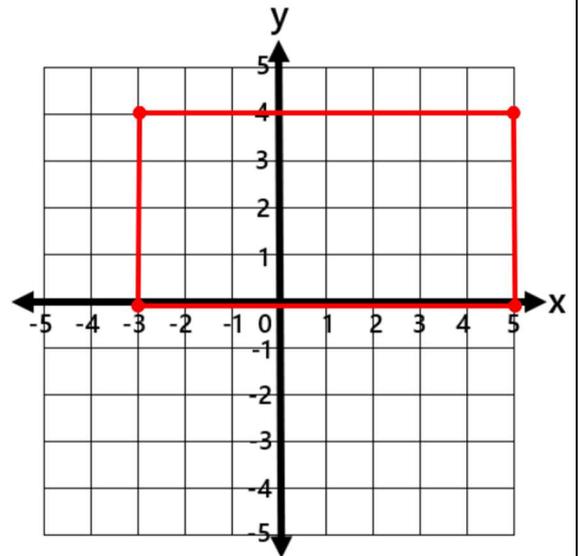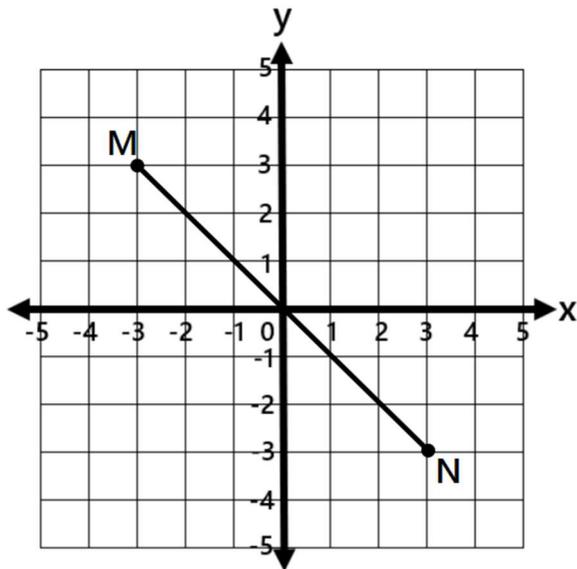

Rectangle

8) A line segment AB is shown on the coordinate grid pictured below. Work out the coordinates of the midpoint of AB.
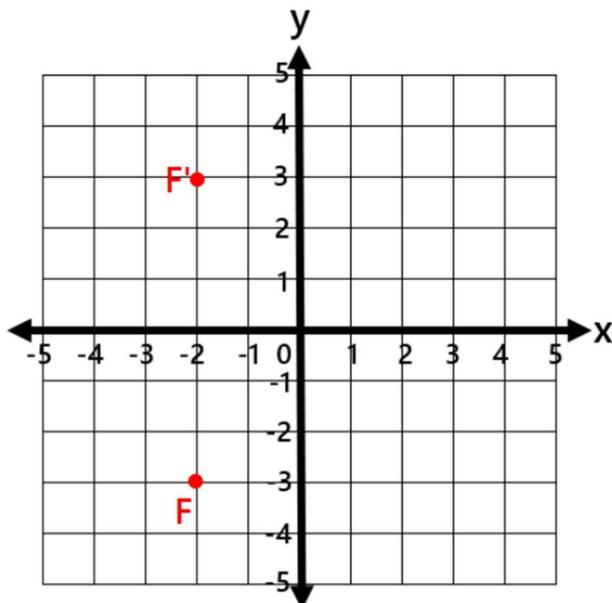

(1, 3)

9) A line segment MN is shown on the coordinate grid pictured below. Work out the coordinates of the midpoint of MN.
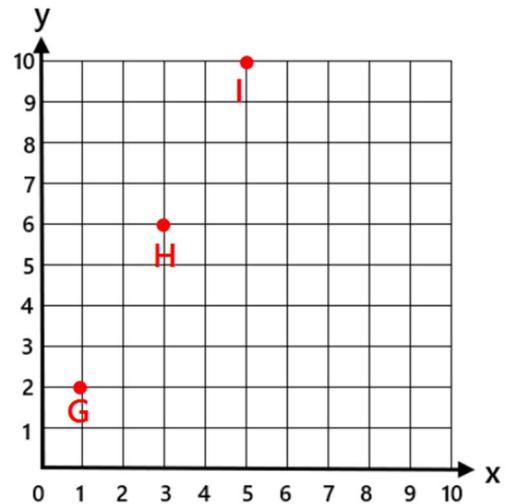
(0, 0)

10) Point F has coordinates (-2, -3).
   a. Plot point F on the coordinate grid shown below.
   b. Write down the coordinates of the point obtained when F is reflected in the x-axis.

F'(-2, 3)

11) Plot the points G (1, 2), H (3, 6), and I (5, 10) on the coordinate grid pictured below. Then, describe the relationship between the x and y coordinates.

**The y-coordinates are twice the x-coordinates.**

12) Point J is (-4, 1). Point K is 3 units to the right and 5 units up from J. Work out the coordinates of the point K.
K (-1, 6)

13) Point M is (-14, -2). Point N is 8 units to the left and 12 units down from M. Work out the coordinates of the point N.
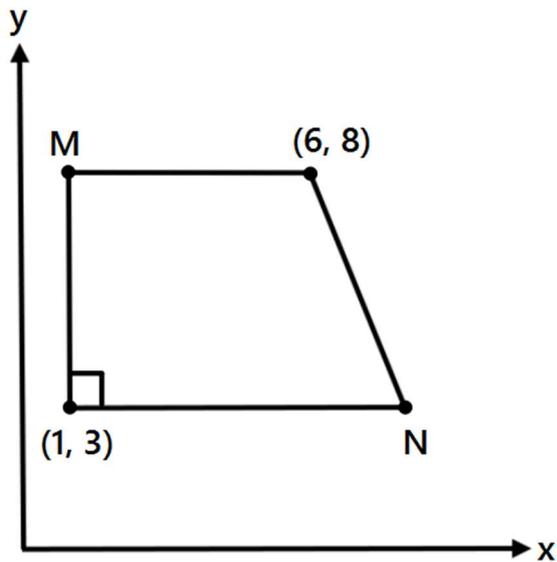**N (-22, -14)**

14) Points T (k, 3) and U (-1, 1) lie on a straight line parallel to the y-axis. Work out the value of k. A coordinate grid is pictured below to help with your working.
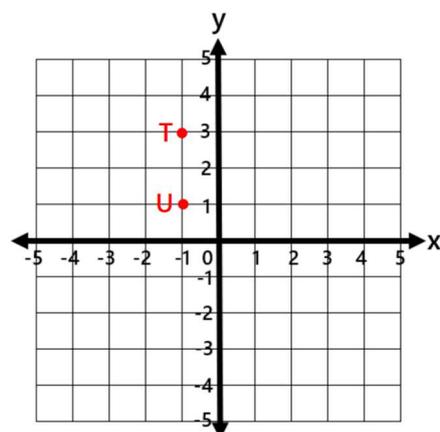
k = -1

15) The coordinates of the vertices of a trapezium are shown on the graph below. Given that the length of the base of the trapezium is 7, work out the coordinates of the points M and N.
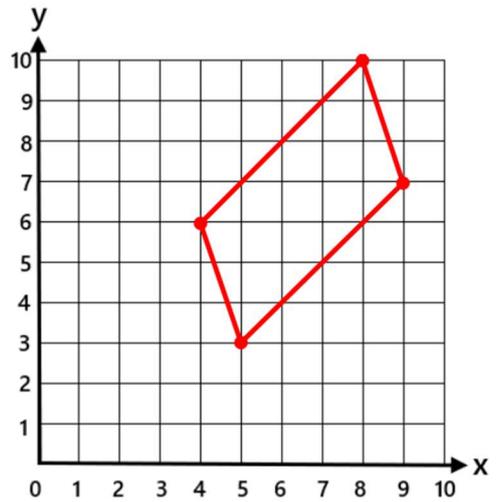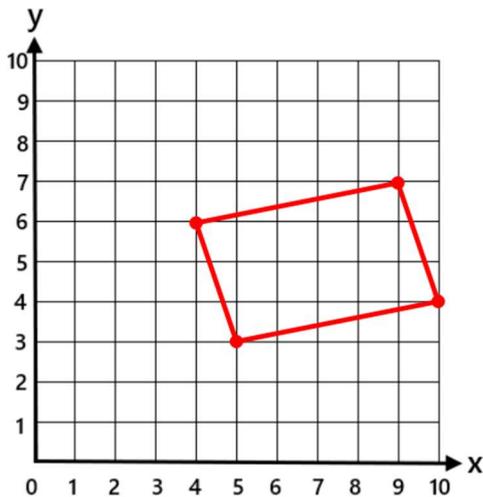
y

M   (6, 8)

(1, 3)   N

x

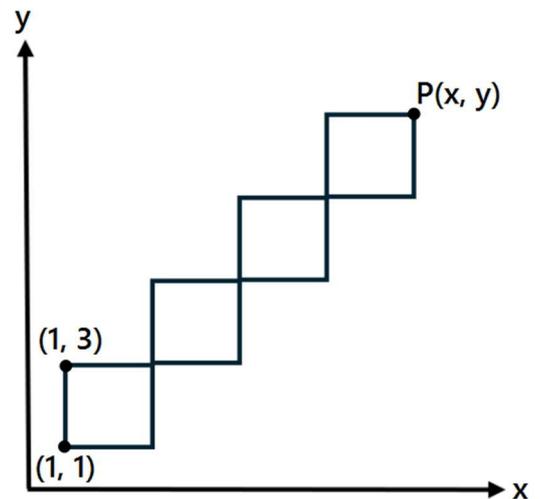**M (1, 8)**
N (8, 3)

Challenge

16) The vertices of a parallelogram have the points (5, 3), (4, 6) and (9, 7). Work out the two possible points of the fourth vertex.

(10, 4) and (8, 10)

y

x

17) Four squares are shown on the graph pictured below. Two vertices of the square are (1, 3) and (1, 1). Work out the coordinates of the point P.

y

P(x, y)

(1, 3)

(1, 1)

x

(9,9)