L.O. Multiply numbers efficiently.

1. 34 x 22 =

2. 28 x 24 =

3. 32 x 54 =

4. 216 x 33 =

5. 342 x 43 =

6. 418 x 56 =

7. 67.4 x 34 =

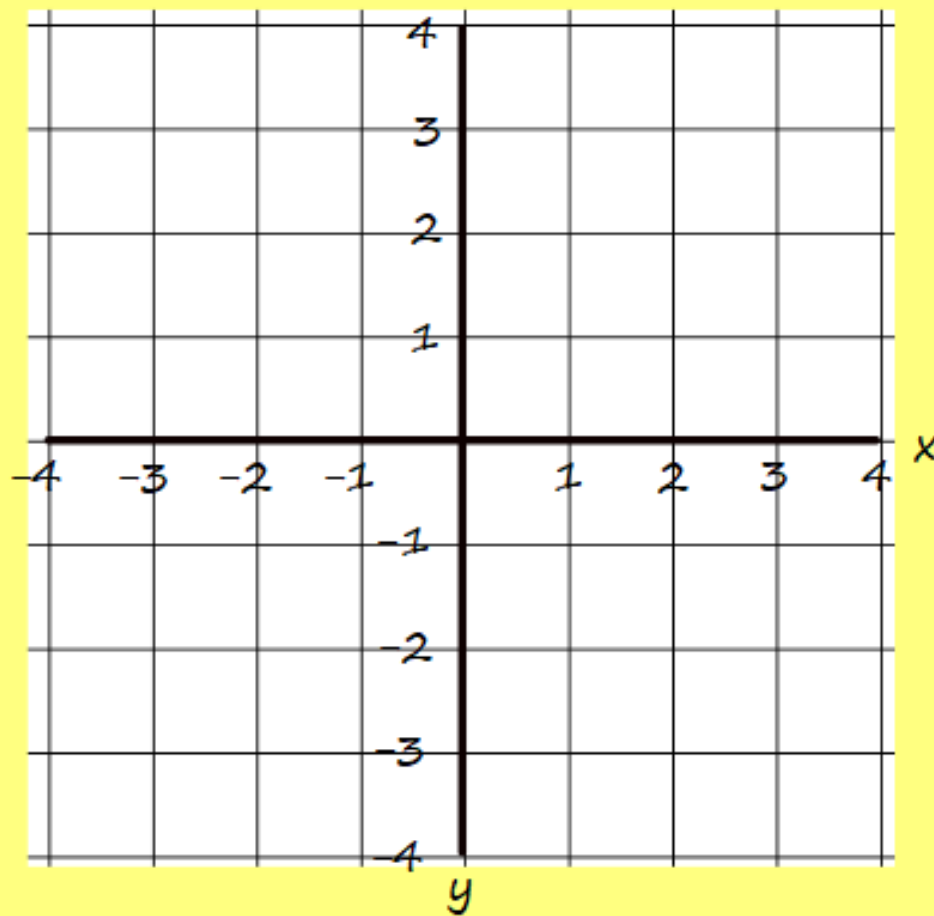|		3	4
x		2	2

Mark your answers with a calculator.

2-D Shape, Coordinates, Translation and Reflection

Vocabulary

coordinate, quadrant, plane, axis, axes, reflect, reflection, mirror line, line of symmetry, image, angle, translate, translation, transformation, coordinate, orientation

L.O. Draw shapes on a co-ordinate grid.

What is the point (0, 0) called?

Why is it called this?

Which axis do we start with?
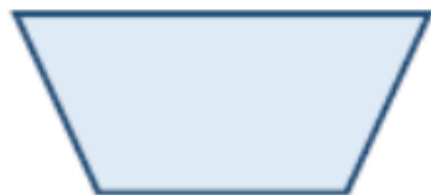
What is a diagonal?

What does intersect mean?

Plot and join the following points

A (-3, 2)   B (2, 3)   C (1, -2)   D (-4, -3)   A (-3, 2)

What shape have we made?

What do you notice about the coordinates of a straight line?

Jamie is drawing a trapezium.
He wants his final shape to look like this:

Jamie uses the coordinates (2, 4), (4, 5), (1, 6) and (5, 6).
Will he draw a trapezium that looks correct?
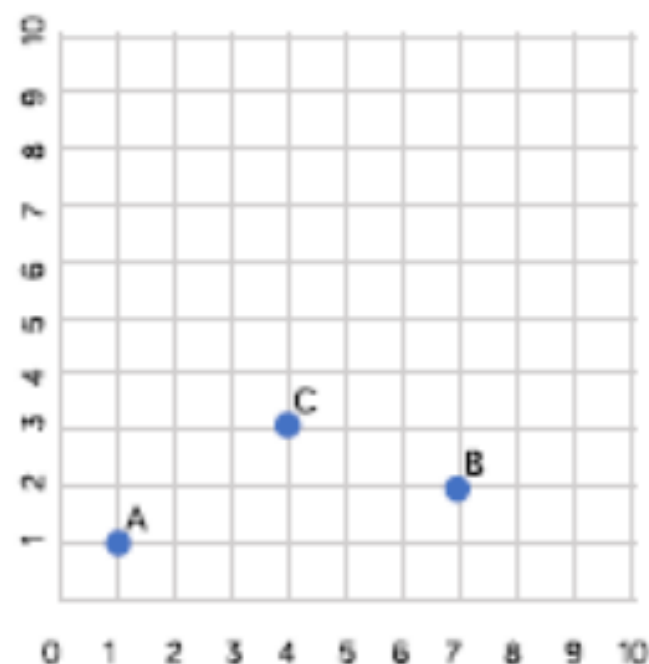If not, can you correct his coordinates?

Hint: Draw it in your jotter

Marie has written the coordinates of point A, B and C.

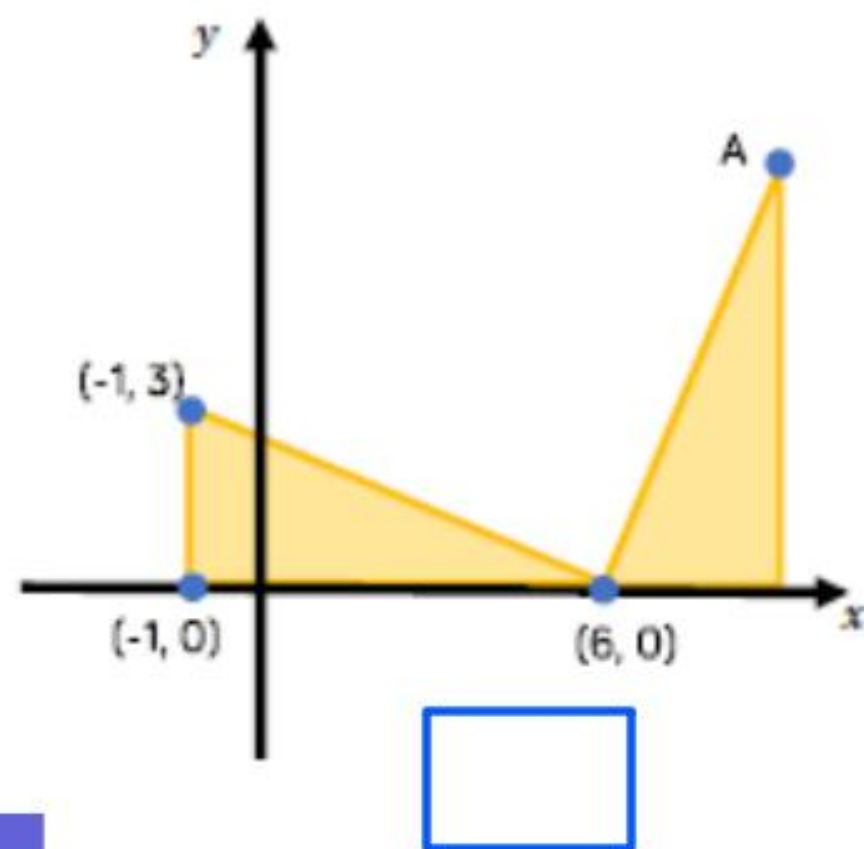A (1, 1)   B (2, 7)   C (3, 4)

Mark Marie's work and correct any mistakes.

The diagram shows two identical triangles.

The coordinates of three points are shown.
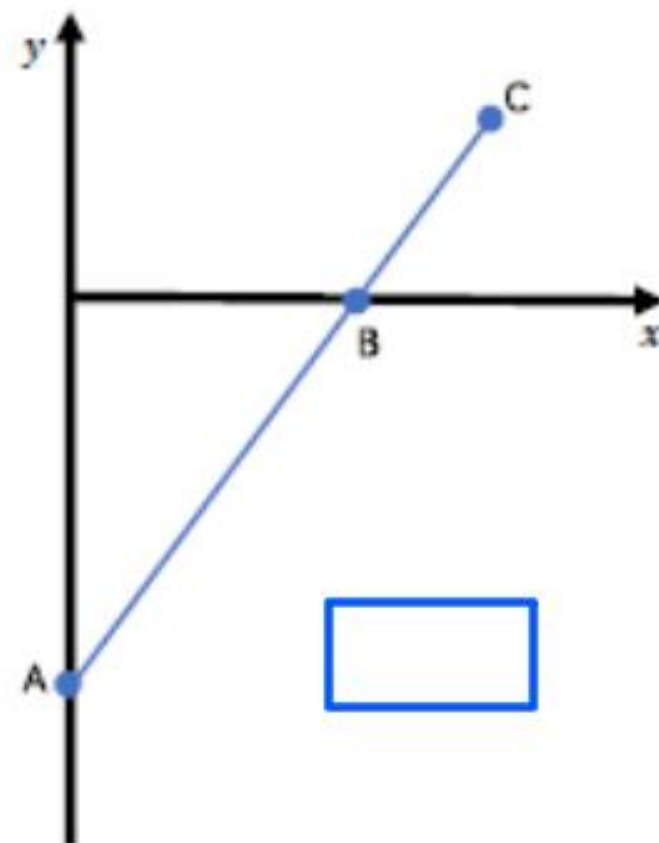
Find the coordinates of point A.

A is the point $(0, -10)$

B is the point $(8, 0)$

The distance from A to B is two thirds of the distance from A to C.
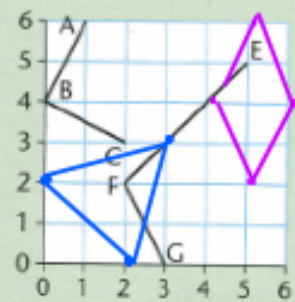
Find the coordinates of C.

Examples

Join the following points in the order given to form a rhombus.

1 A (−3, 2)   **3** C (1, −2)   **5** A (−3, 2)

2 B (2, 3)   **4** D (−4, −3)

A

1 Copy the above grid.
Draw and complete:
a) square ABCD
b) parallelogram
   EFGH.

Draw a grid like the one above. Plot the points for each shape and join them up in the order given.

2 (2, 0)   **3** (5, 6)
(0, 2)   (6, 4)
(3, 3)   (5, 2)
(2, 0)   (4, 4)
               (5, 6)

Draw a new grid and form the shapes.

4 (3, 6)   **5** (2, 1)
(4, 4)   (5, 4)
(0, 2)   (6, 3)
(3, 6)   (3, 0)
               (2, 1)

6 Label each shape.
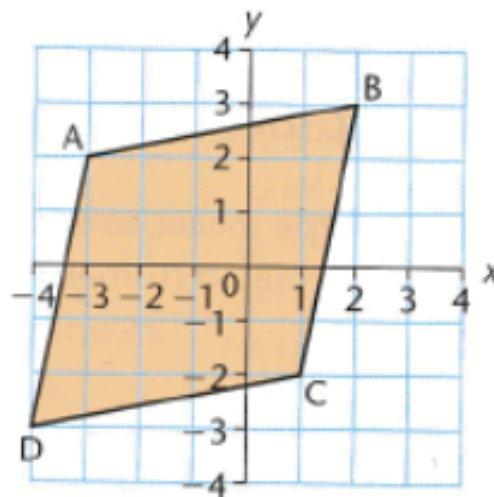
L.O. Draw shapes on a co-ordinate grid.

B

Draw a grid like the one above. Plot the points for each shape and join them up in the order given. Use a different colour for each shape.

1 (−4, 4)
(0, 3)
(1, −1)
(−3, 0)
(−4, 4)

2 (4, −2)
(−2, −4)
(−3, −1)
(3, 1)
(4, −2)

Draw a new grid and form the shapes.

3 A (−4, 1)
B (0, 3)
C (2, −1)
D (−2, −3)
A (−4, 1)

4 E (−1, 4)
F (4, 2)
G (3, −2)
H (−2, 0)
E (−1, 4)

5 Label each shape.

6 Write down the mid-point of each line.
a) AB   c) CD
b) BC   d) AD

7 Write down the point where the diagonals intersect in:
a) shape ABCD
b) shape EFGH

C

1 Draw a grid with both x and y axes labelled from −6 to 6.
Plot the following points:
L (−4, −1)
M (2, 1)
R (0, −2)

2 LM is the longest line in an isosceles triangle KLM.
Give the co-ordinates of both possible positions of K.

3 LMN is an isosceles triangle.
Give both possible positions for N if:
a) LM = MN
b) LM = LN

4 L, M and R are three vertices of a parallelogram LMRQ.
Give the co-ordinates of all three possible positions for Q.

rhombus
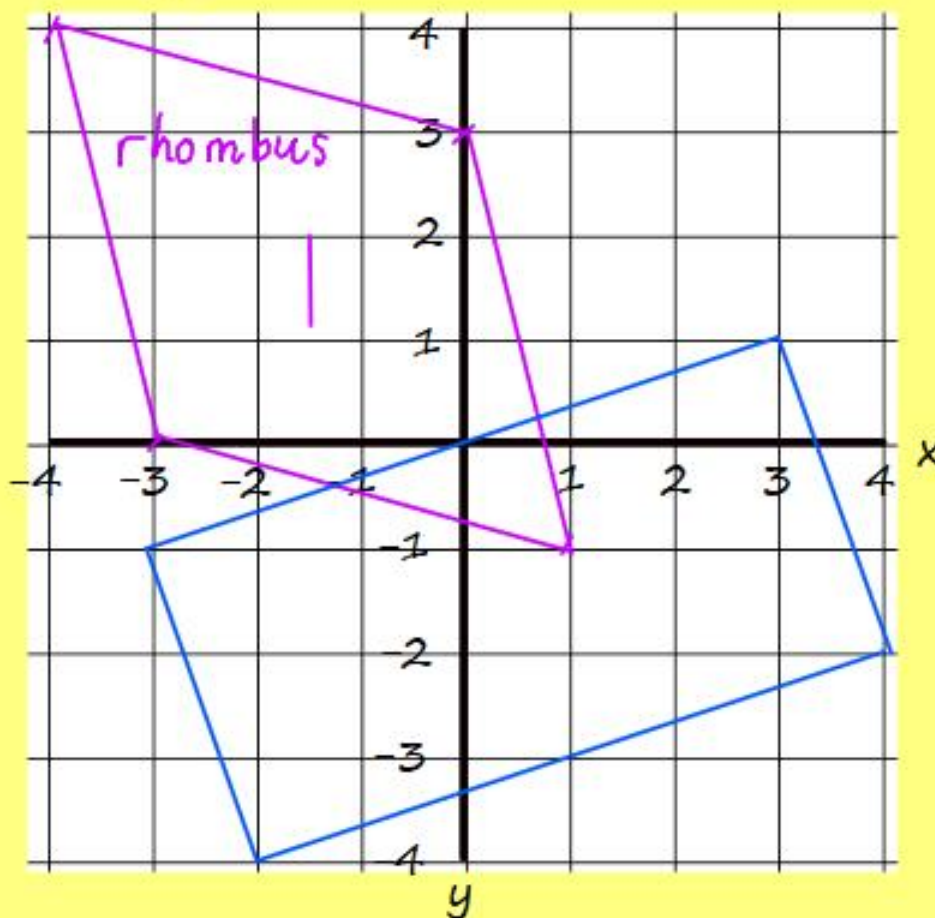
TYM page 131
Tri Sec B
Pen Sec B
Hex Sec C
Ext page 130 C

L.O. Draw shapes on a co-ordinate grid.
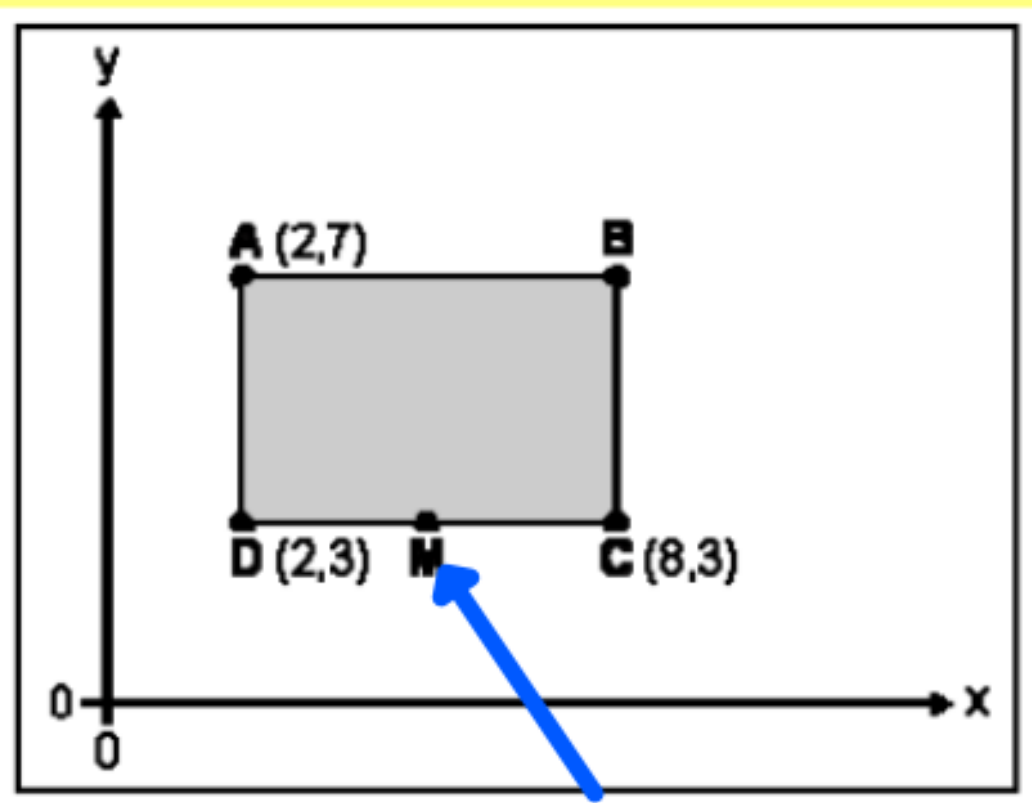
What are the co-ordinates of the missing points?

Midpoint of line DC

$(-3, -2)$ $(1, -2)$

6 D is point $(-1, -3)$

7 a) $(-1, 2)$ **c)** $(1, -2)$ **e)** $(0, 0)$
    b) $(2, 1)$ **d)** $(-2, -1)$ **f)** $(0, 0)$

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A

1 a) D is point $(3, 5)$
    b) H is point $(6, 3)$

6 2. isosceles triangle   **4.** right-angled triangle
    3. rhombus   **5.** rectangle

B

5 1. rhombus   **3.** square
   2. rectangle   **4.** parallelogram

6 a) $(-2, 2)$ **c)** $(0, -2)$ **7 a)** $(-1, 0)$
   b) $(1, 1)$ **d)** $(-3, -1)$ **b)** $(1, 1)$

C

2 $(-2, 3)$ $(0, -3)$ **3 a)** $(-4, 3)(0, -5)$ **4** $(-6, -4)$
                          b) $(-2, 5)(2, -3)$ $(-2, 2)$
                                              $(6, 0)$

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A

3 a) $(5, 8)$ **b)** $(0, 6)$ **c)** $(5, 3)$