

## Let's learn

In a full coordinate grid, the second quadrant appears below the first quadrant.



## You need:

- squared paper
- ruler 

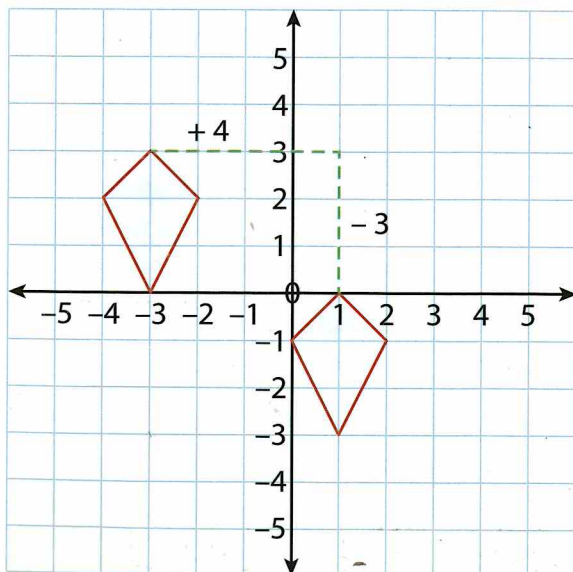
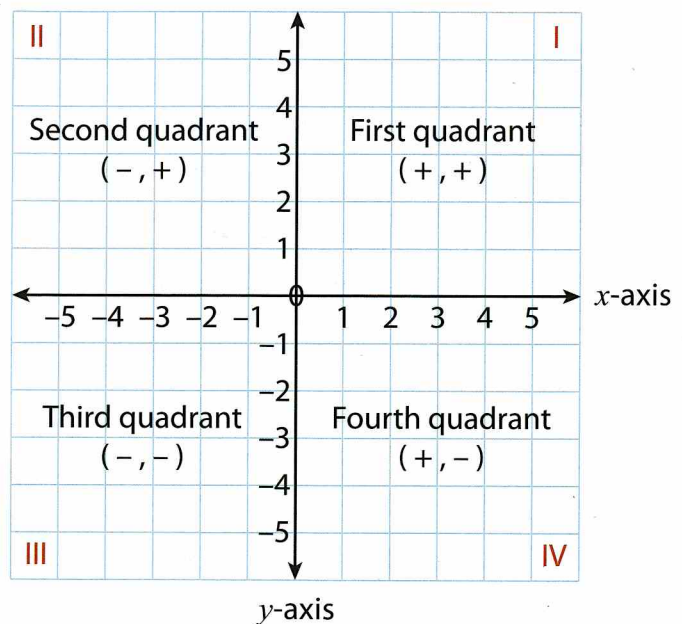
No, you're wrong! The quadrants are numbered in an anti-clockwise direction. The ancient Babylonians decided the direction based on astronomy. You just have to remember it!

## Using four quadrants

The point  $(0, 0)$  is called the origin.

Values on the  $x$ -axis to the left of the origin are negative. This is the same as on a number line.

On the  $y$ -axis, values above the origin are positive and below are negative.



## Translating using a full coordinate grid

The kite in the second quadrant has been translated using  $+4$  in an  $x$  direction and  $-3$  in a  $y$  direction.

- $(-3, 3)$   $(1, 0)$
- $(-4, 2)$   $(0, -1)$
- $(-3, 0)$   $(1, -3)$
- $(-2, 2)$   $(2, -1)$

Each point has moved 4 squares to the right (in a positive direction) and 3 squares down (in a negative direction).

The 2 kites are **congruent** (or identical).

Teacher's Guide

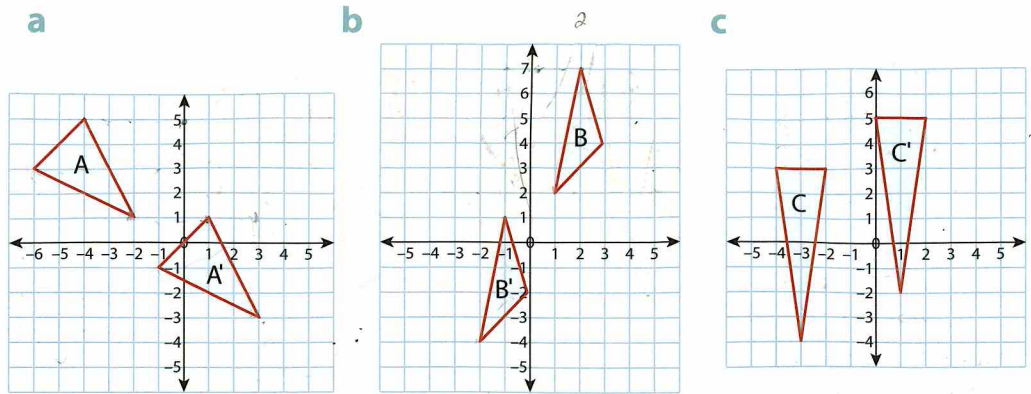


Before working through the *Textbook*, study page 134 of the *Teacher's Guide* to see how the concepts should be introduced. Read and discuss the page with the children. Provide concrete resources to support exploration.

1

**Answer.**

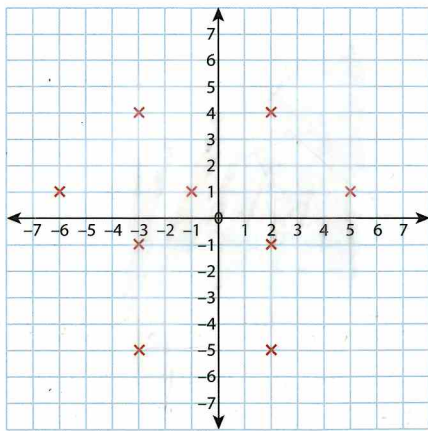
Describe how these shapes have been translated using  $x$  and  $y$ .



2

**Answer.**

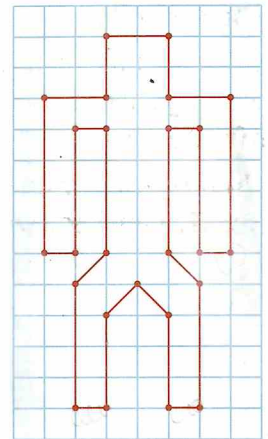
Use the coordinates marked on the quadrants to make a kite, square, trapezium and rectangle. Write down their coordinates. (Some coordinates are used more than once.)



3

**Draw.**

Draw the outline of a simple robot on a coordinate grid. Use all 4 quadrants (+10 to -10). Write a list of the coordinates in the order they should be joined.

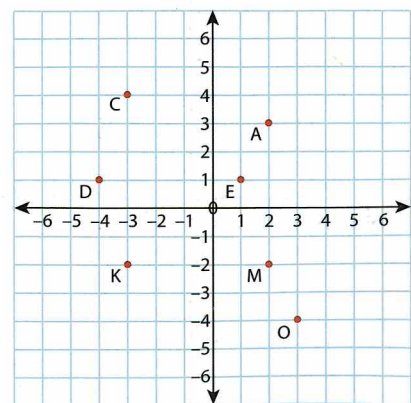


Challenge your partner to plot the coordinates and draw your robot.

4

**Think.**

Use the letters at the coordinates to crack this message. Write your own message of 5 or more words. You will need to add more coordinates for other letters.



(2, -2)	(2, 3)	(-3, -2)	(1, 1)		(2, 3)		(-3, 4)	(3, -4)	(-4, 1)	(1, 1)
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