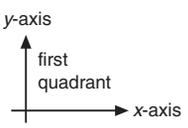
As outcomes, Year 5 pupils should, for example:

Use, read and write, spelling correctly, the vocabulary from the previous year, and extend to:
x-axis, y-axis… quadrant…
parallel, perpendicular…

Read and plot points using co-ordinates in the first quadrant.



Know the convention that (3, 2) describes a point found by starting from the origin (0, 0) and moving three lines across and two lines up.

Respond to questions such as:

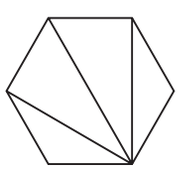
- These points are the co-ordinates of the vertices of a shape: (1, 5), (2, 5), (4, 3), (2, 1), (1, 1). What is the name of the shape?
- Three of the vertices of a square are (2, 1), (2, 4) and (5, 4). What are the co-ordinates of the fourth vertex?

Know that:
- **perpendicular** lines are at right angles to each other;
- **parallel** lines are the same distance apart.

Recognise and identify parallel and perpendicular lines in the environment and in regular polygons such as the square, hexagon and octagon.

Know that a **diagonal** is a straight line drawn from a vertex of a polygon to a non-adjacent vertex.
For example:

- Draw all the diagonals of a shape such as a pentagon or an octagon.

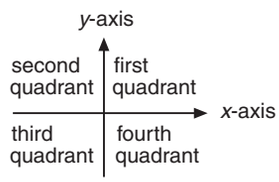


3 of the 9 diagonals of a hexagon

As outcomes, Year 6 pupils should, for example:

Use, read and write, spelling correctly, the vocabulary from the previous year, and extend to:
intersecting, intersection…
plane…

Read and plot points using co-ordinates beyond the first quadrant.



Respond to questions such as:

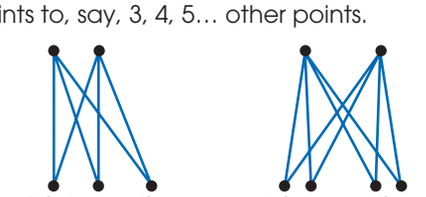
- The points (–1, 1), (2, 5) and (6, 2) are three of the four vertices of a square.
  What are the co-ordinates of the fourth vertex?
- Draw a polygon with each vertex lying in the first quadrant. Plot its reflection in the *y*-axis, and name the co-ordinates of the reflected shape.

Recognise **parallel and perpendicular lines** in quadrilaterals.

See also properties of 3-D and 2-D shapes (page 103).

Know that two lines that cross each other are called **intersecting lines**, and the point at which they cross is an intersection. For example:

- Identify all the intersections of lines drawn from 2 points to, say, 3, 4, 5… other points.



Predict the number of intersections from 2 points to 10 points.