

## Can I use coordinates to draw, locate and complete shapes?

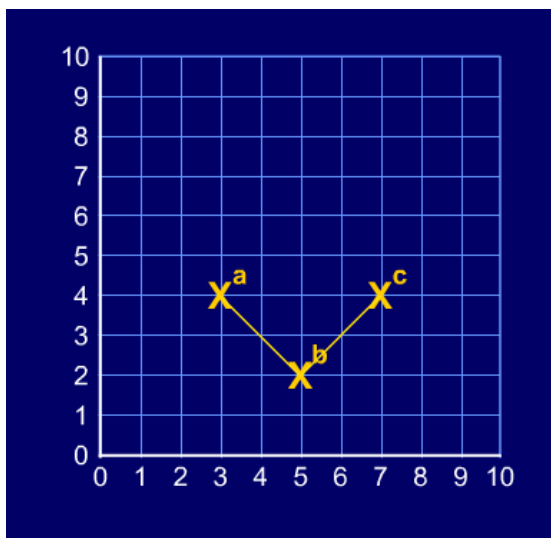
### Teaching guidance

#### Key vocabulary

coordinate, axis, axes, origin, x-axis, y-axis, horizontal, vertical, parallel, perpendicular (also shape vocabulary, for example vertex, vertices)

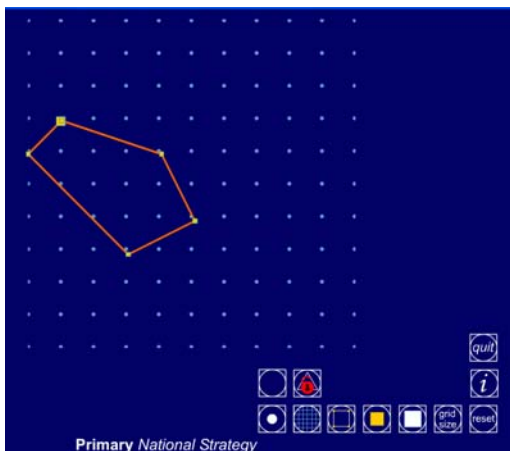
#### Models and images

Use the *Coordinates* ITP to create the start of a shape. Ask children to identify the coordinates of the labelled points and then suggest the coordinates for the missing vertex or vertices.



*Coordinates* ITP

Use the pinboard option of the *Area* ITP to create shapes.



*Area* ITP

## Teaching tips

- Explain that the point with coordinates (0, 0) is called the origin and discuss the meaning of this word.
- Ensure that children understand that coordinates are used to describe position in relation to the origin.
- Children need to appreciate that the order of the numbers is important. The first number tells you how far to go across while the second number tells you how far to go up or down. Use an image or phrase to help children remember this, for example going along the corridor and up the stairs.
- Give children experience of physically moving an image of an object from the origin across and then up to the desired position, describing the journey the image makes.
- Model annotation and encourage children to add information to the grid. Good examples of annotation should be displayed as part of the classroom learning environment.
- When drawing shapes make sure that the sides are not always parallel or perpendicular to the axes. This will add extra challenge.
- Give children opportunities to draw on their knowledge of shape properties to solve problems involving coordinates. For example, give children three vertices of a square and ask them to find the missing vertex.