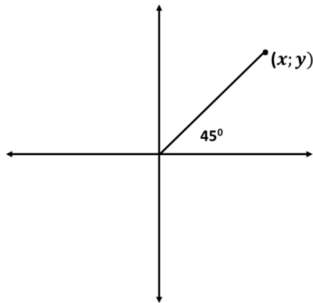


## a. Coordinates and quadrants

### Thinking exercise 1a: Quadrants

Do research in your textbook and explain your understanding of quadrants.



1. You are requested to draw a straight line with an angle of  $45^\circ$  from the origin.
2. In which quadrant is the line drawn and from which line do you measure the  $45^\circ$ ? Indicate this on the drawing and number the quadrants.
3. Explain what a quadrant is. You MUST use the 'circle'. In your answer.
4. Fill in the degrees on the  $x$ - and  $y$ -axis lines.
5. Write down the rule(s) you discovered.

### Thinking exercise 1b: Coordinates

How many coordinates exist for the straight line in Thinking exercise 1?

Provide three coordinates for the straight line			
	$x$ -axis	$y$ -axis	Coordinate
1			( , )
2			
3			

Extend the line to the third quadrant and provide three coordinates – one in each of the quadrants			
	$x$ -axis	$y$ -axis	Coordinate
1			( , )
2			
3			

### Thinking exercise 2

Draw a  $45^\circ$  angle line from the origin in the second quadrant.

Provide three coordinates for the straight line			
Points	$x$ -axis	$y$ -axis	Coordinate
1			( , )
2			
3			

Extend the line to the fourth quadrant and provide three coordinates			
	$x$ -axis	$y$ -axis	Coordinate
1			( , )
2			
3			

### Thinking exercise 3

Draw a coordinate plane. Draw any line in the first quadrant (not from the origin).

Provide three coordinates for the straight line.

Points	$x$ -axis	$y$ -axis	Coordinate
1			( , )
2			
3			

Why does this Thinking exercise not contain a request to extend the line?