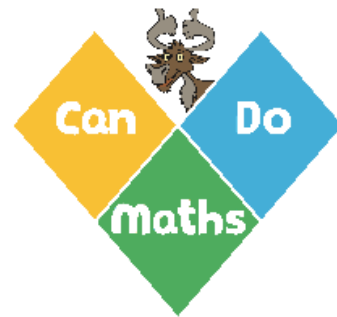
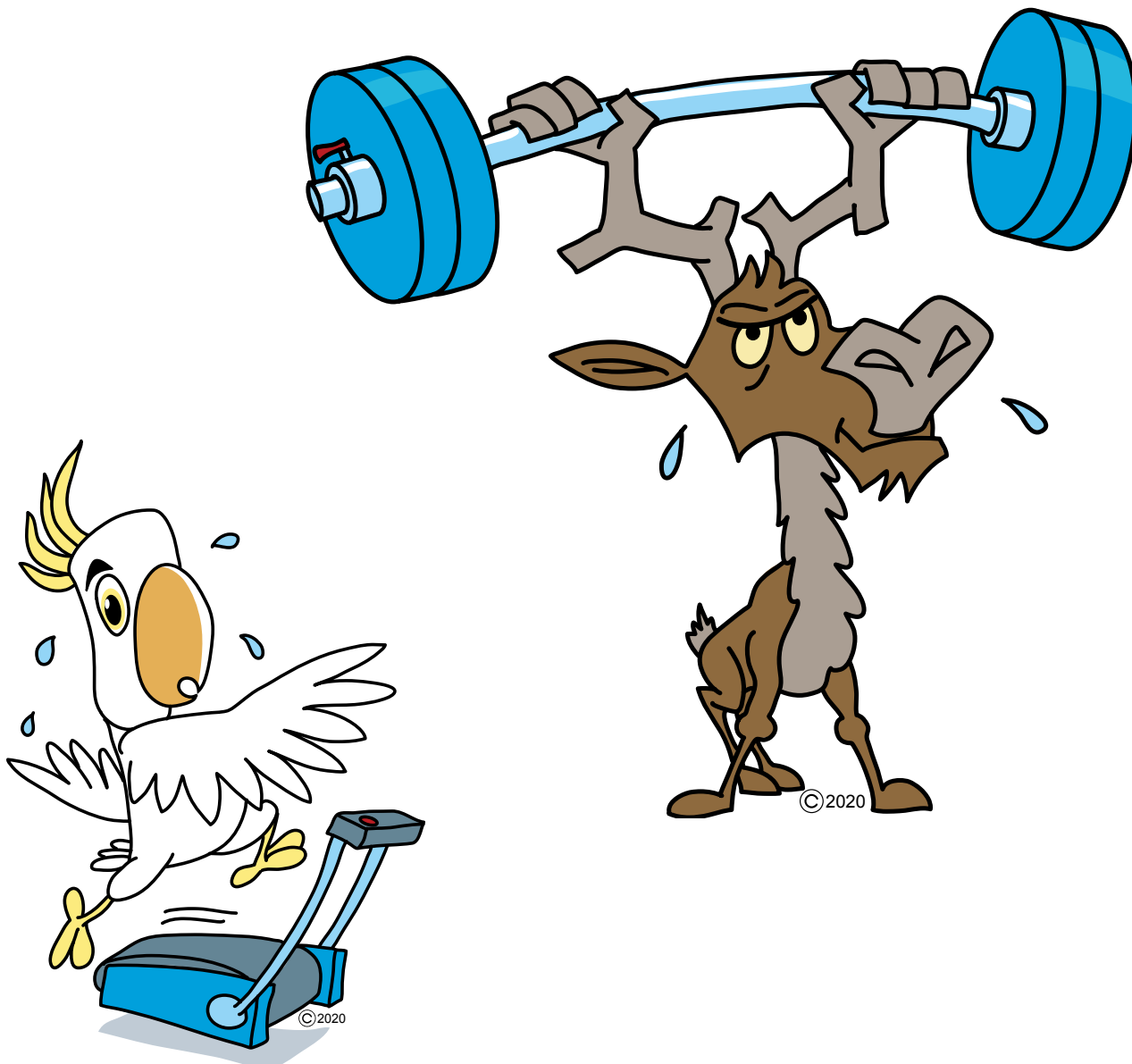




Colin and Coco's Deliberate Practice

Year 6 Unit 4

Geometry: Position and Direction





Contents

This pack of deliberate practice is designed to be used flexibly to secure the manageable steps of this unit.

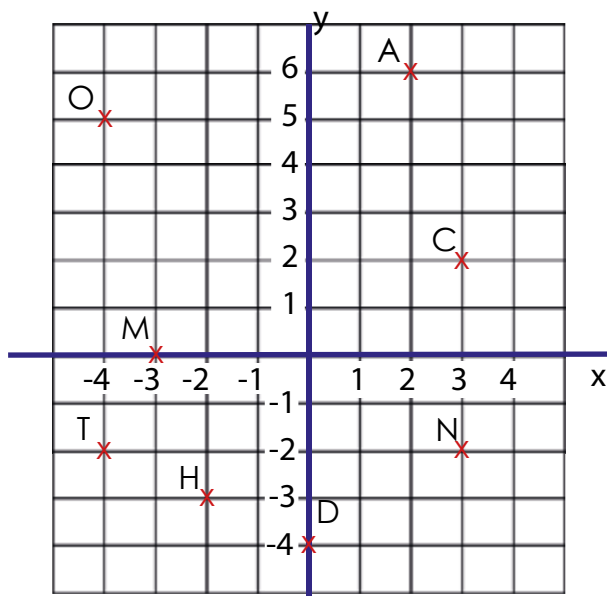
The table below indicates which activities are linked to which manageable steps.

	Do It	Challenge It	Play It
Use coordinates to describe the position of a point in all four quadrants	1	2	
Use coordinates to plot the position of a point in any of the four quadrants	1	1	1
Draw and translate simple shapes	2		2
Carry out a reflection using one of the axes as a mirror line		2	



Do It 1

Use coordinates to describe the position of the points.



C () O ()

A () M ()

N () T ()

D () H ()

Plot the following points on the grid above.

P (4, 5)

R (-2, 5)

U (-2, 0)

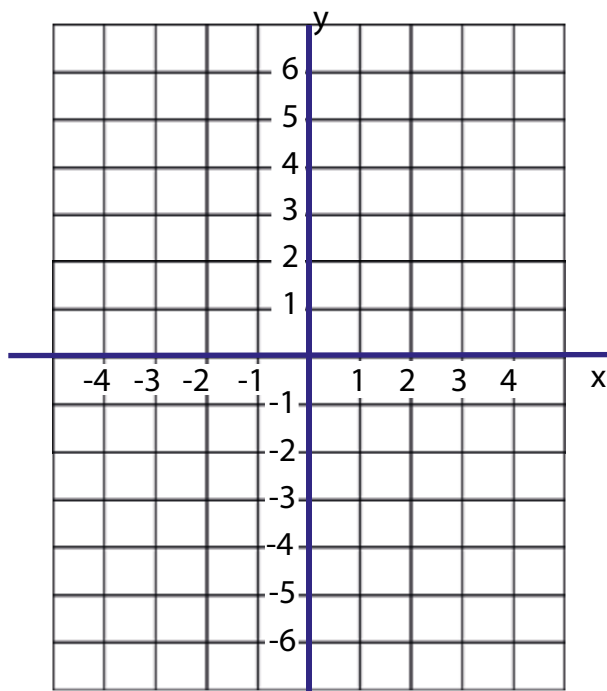
V (0, 4)

W (4, -3)

Z (-3, -2)

Challenge It 1

How many different squares can you plot that have (0, 0) as one of their vertices?
What if you had a larger grid? Can you predict the squares you could plot?





Plot a Line Game

Play It 1

You need:

1 - 6 dice

Coordinate grid

To play:

Player 1 rolls the dice twice to create a pair of coordinates.

For example, 2 and 4 could give the coordinates:

$(2,4)$ $(4,2)$ $(-2,4)$ $(2,-4)$ $(-4,2)$ $(4,-2)$ $(-2,-4)$

Player 1 plots the point of their chosen coordinates.

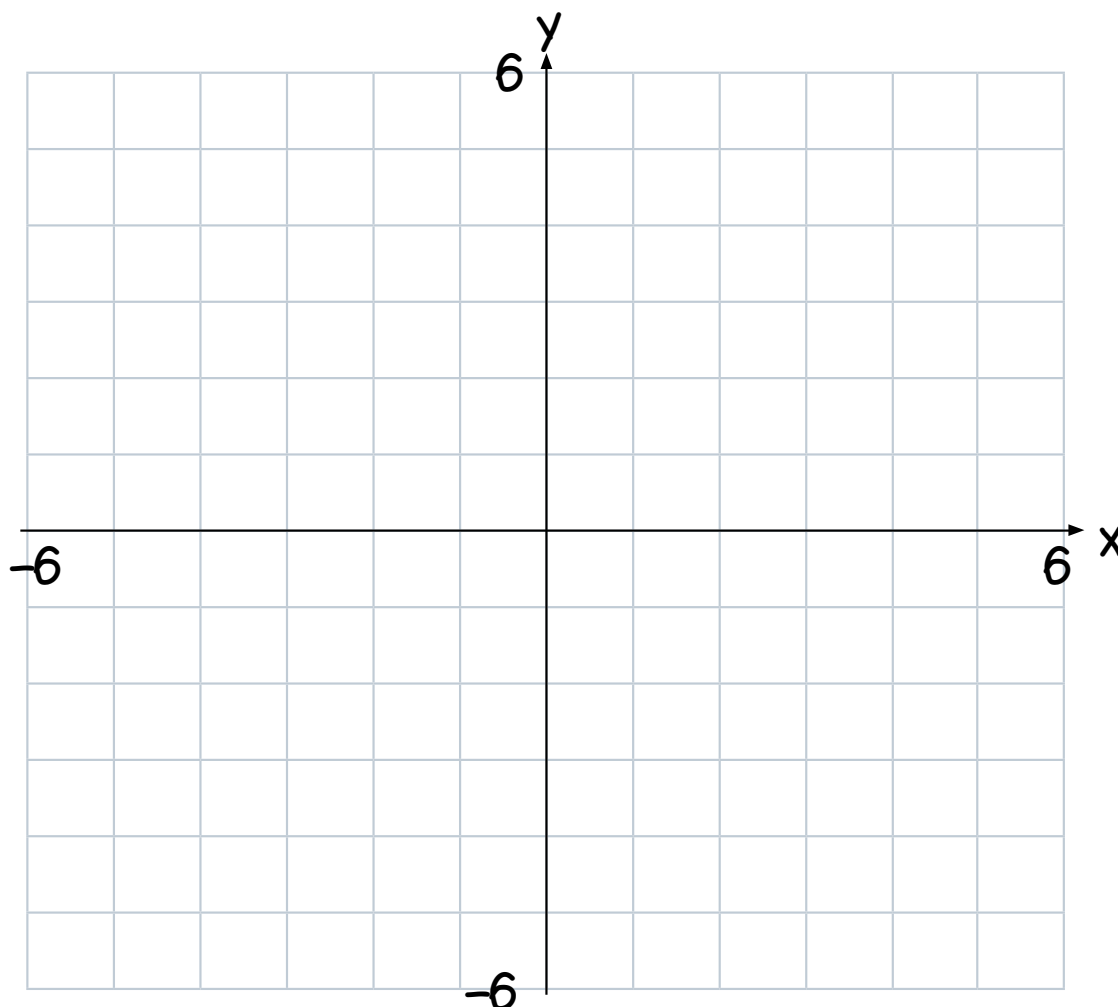
Player 2 rolls the dice to create a pair of coordinates.

Player 2 plots the point of their chosen coordinates.

To win:

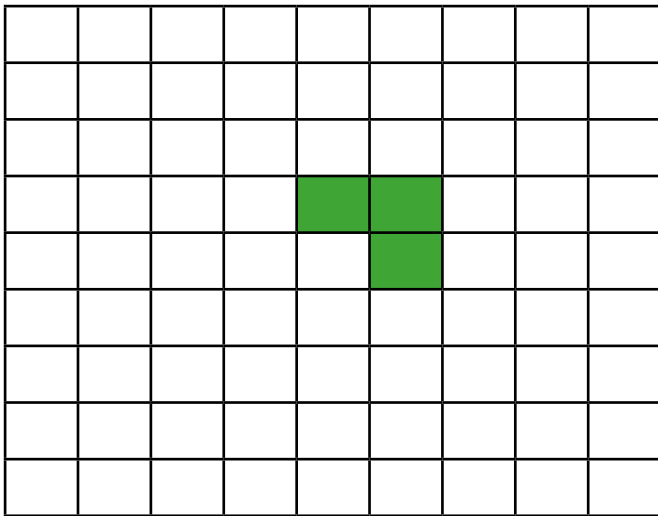
The winner is the first player to plot 3 points in a straight line.

The line can be horizontal, vertical or diagonal.





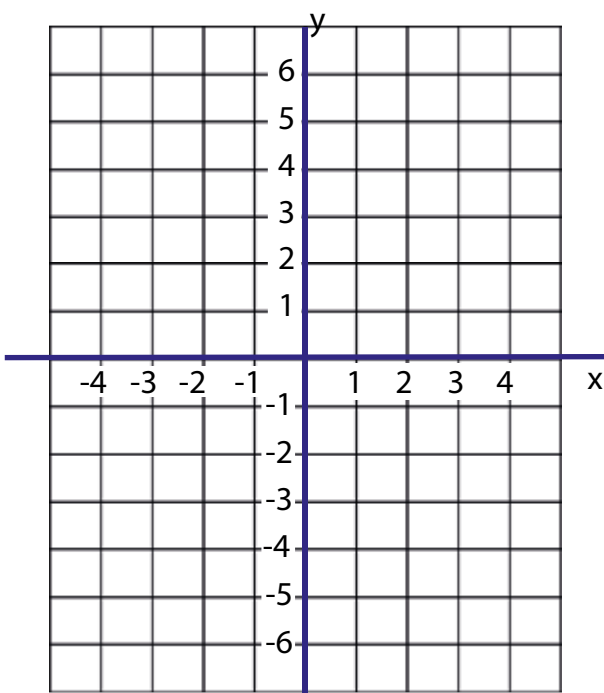
Translate the shape:



1. 3 squares right, 2 squares up
2. 3 squares left
3. 1 square right, 4 squares down
4. 4 squares left, 3 squares up
5. 2 squares left, 3 squares down

Challenge It 2

Plot a rectangle in the top right quadrant and list the coordinates.



Reflect your rectangle in the x axis.
List the coordinates.

Reflect your second rectangle in the y axis.
List the coordinates.

Reflect your third rectangle in the x axis.
List the coordinates.



Translate and Score Game

Play It 2

You need:

- 1 - 6 dice
- 1 - 100 grid as a Game Board
- 1 by 2 rectangle playing piece each

To start the game, throw the dice to get two digits. Make a 2-digit number. Place your rectangle so one square of it is on the 2-digit number you made. This is your starting position.

To play:

Take it in turns to roll the dice to get two numbers.

These numbers are the number of squares you can move up or down, and left or right.

You are aiming for your rectangle to cover a prime number.

Every time you cover a prime number you score 1 point.

For example:

Player 1: I have thrown 4 and 2

I am going to move my rectangle 2 squares left, 4 squares up.

One of my rectangle's squares is on the number 23 so I score a point.

To win:

The winner is the first player to score 10 points.