

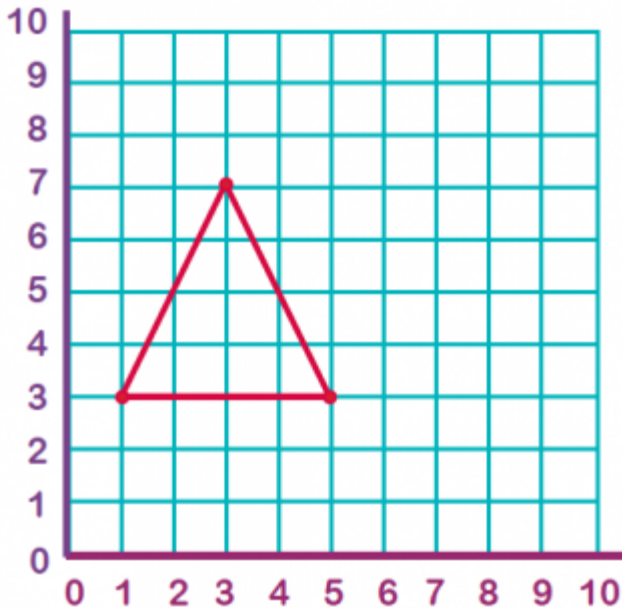
Introduction to Coordinates

What are Coordinates?

Coordinates are numbers which determine the position of a point or a shape in a particular space (a map or a graph).

In primary school children are taught Cartesian coordinates, which they are introduced to in Year 4. Points are marked by how far along they are on the x axis (the horizontal axis) and how far up they are on the y axis (the vertical axis).

Children will be shown a grid like the following, with numbers along the x axis and the y axis:



The coordinates of the left-hand corner of this triangle are (1, 3).

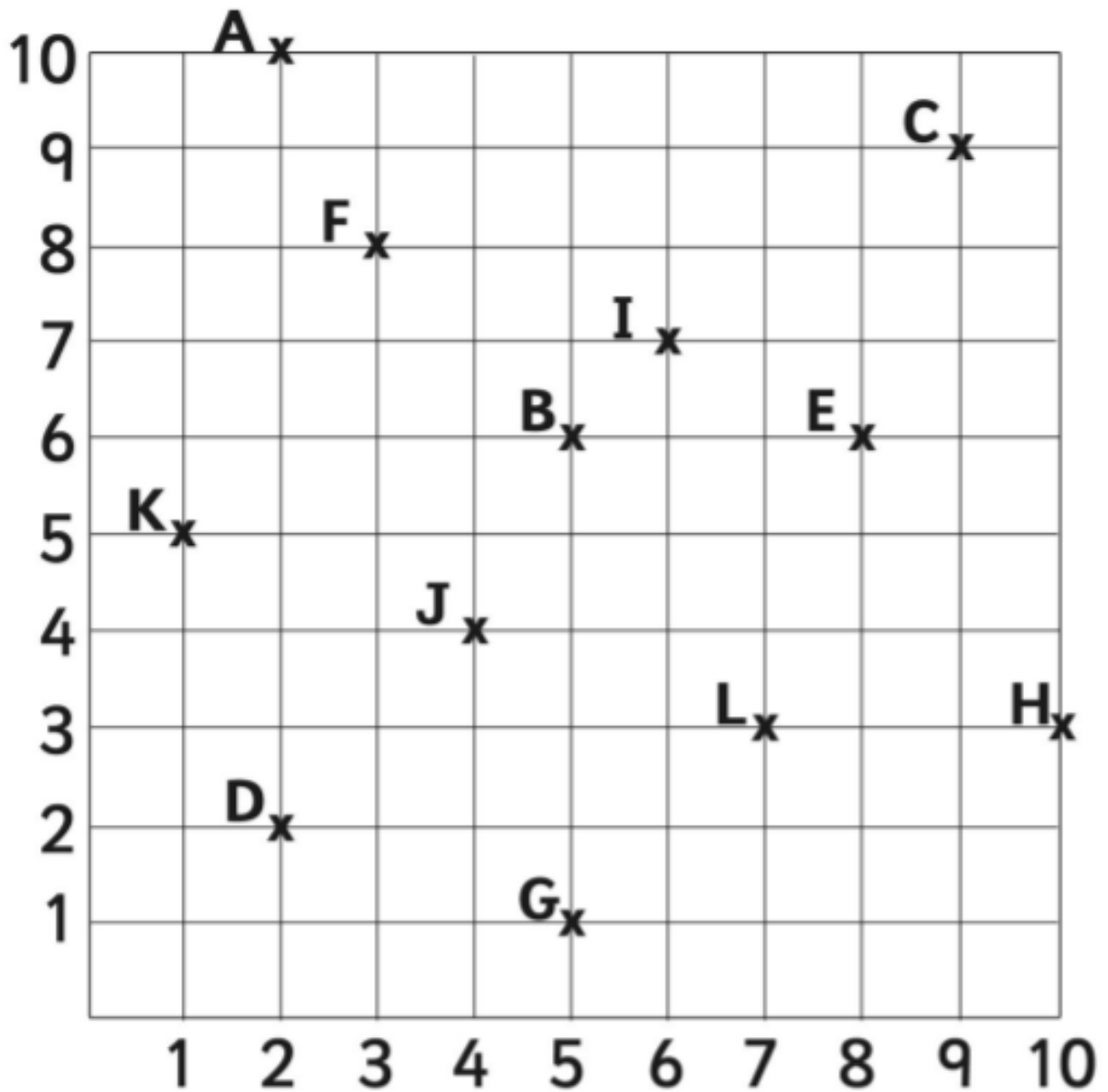
How to read and plot coordinates

Coordinates are always written in brackets, with the two numbers separated by a comma. Coordinates are ordered pairs of numbers; the first number indicates the point on the x axis and the second the point on the y axis.

When reading or plotting coordinates you always go across first and then up (a good way to remember this is: 'across the landing and up the stairs' or 'a baby learns to crawl before it walks').

Children start to learn about co-ordinates in Year 4. For example: they may be shown the above triangle and asked to write the three coordinates for the three points of the triangle. This would constitute reading coordinates. They may then be given a blank grid and asked to plot the following coordinates: (1, 1) (4, 1) (1, 3) and (4, 3) then join up the points to make a shape (which in this case would be a rectangle).

Maths Activity 1: Reading/ Writing Coordinates



Write the coordinates of the letters below

A (,)

B (,)

C (,)

D (,)

E (,)

F (,)

G (,)

H (,)

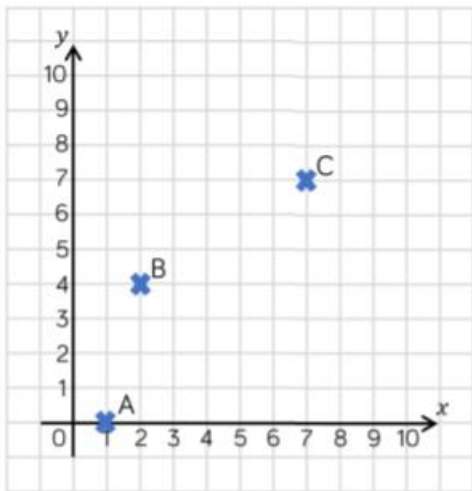
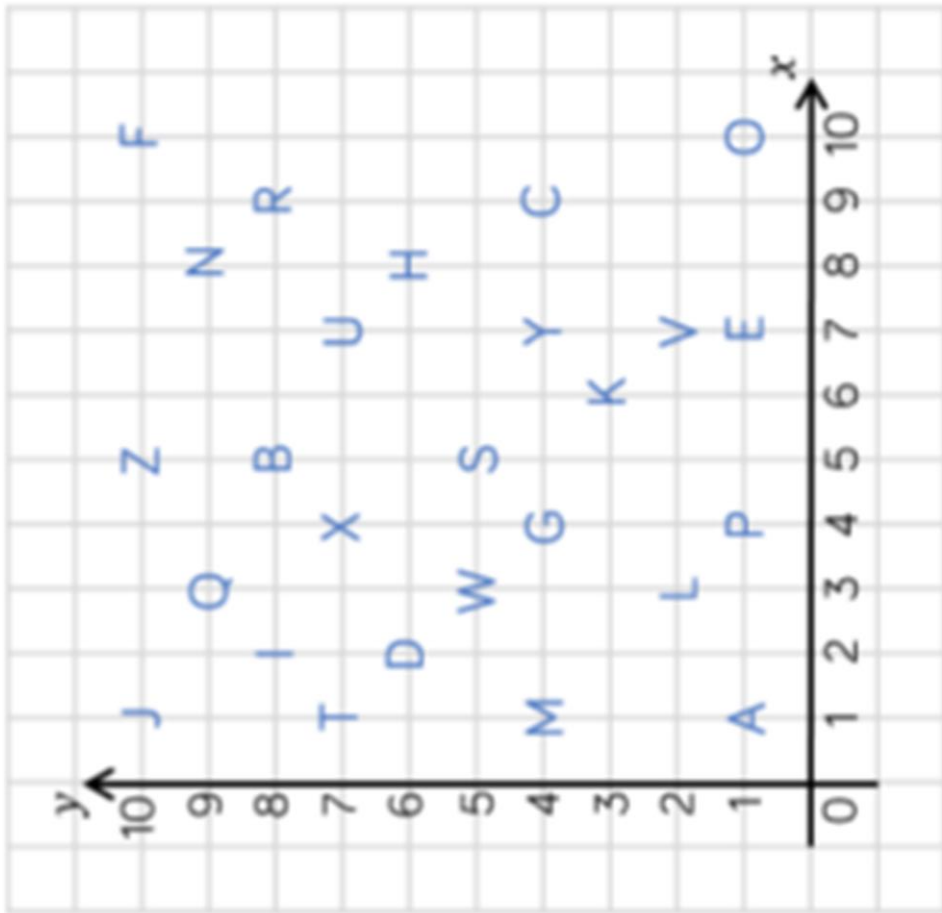
I (,)

J (,)

K (,)

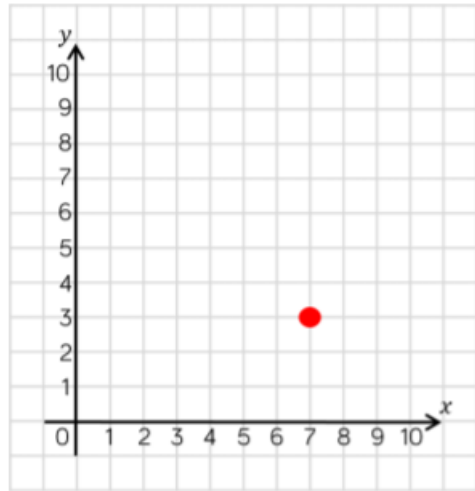
L (,)

Write out the coordinates that spell
your name



Which clue matches which coordinate?

- Clue 1 My x coordinate is half of my y coordinate.
- Clue 2 My y coordinate is less than my x coordinate.
- Clue 3 Both my coordinates are prime numbers.



The point is plotted
at (7, 3)



The point is plotted
at (3, 7)

Who is correct?
What mistake has one of the children
made?

Maths Activity 2: Plotting Coordinates

Plot these co-ordinates to make a star picture:

Line 1: (12,13), (18,20)

Line 2: (10,16), (11,12), (16,12), (12,9), (14,4), (10,7), (6,4), (8,9), (4,12), (9,12), (10,16)

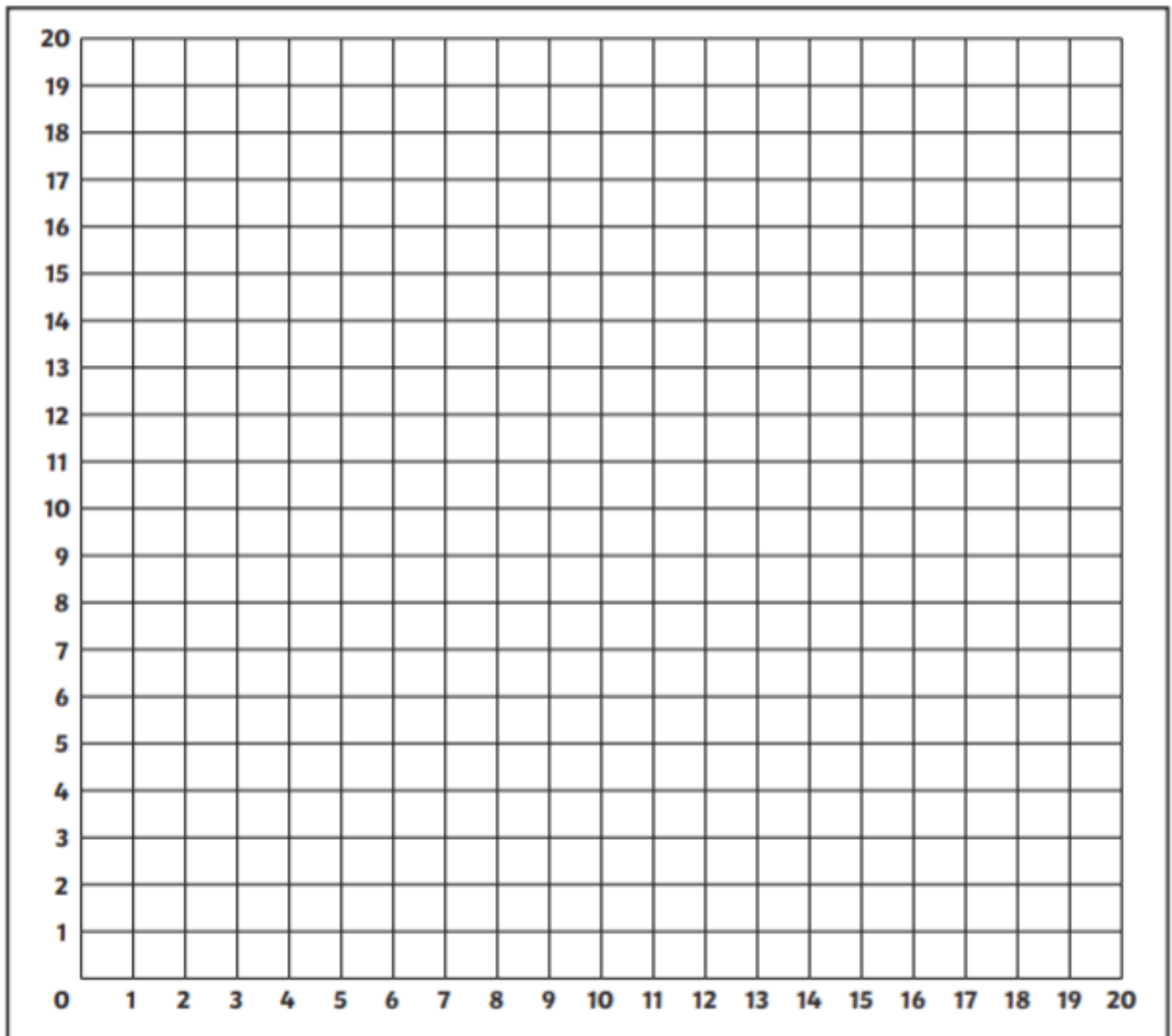
Line 3: (14,8), (20,7)

Line 4: (8,13), (2,20)

Line 5: (10,0), (10,5)

Line 6: (10,20), (12,13), (20,13), (14,8), (17,0), (10,5), (3,0), (6,8), (0,13), (8,13), (10,20)

Line 7: (6,8), (0,7)



Draw the shapes at the correct points on the grid



(7, 8)



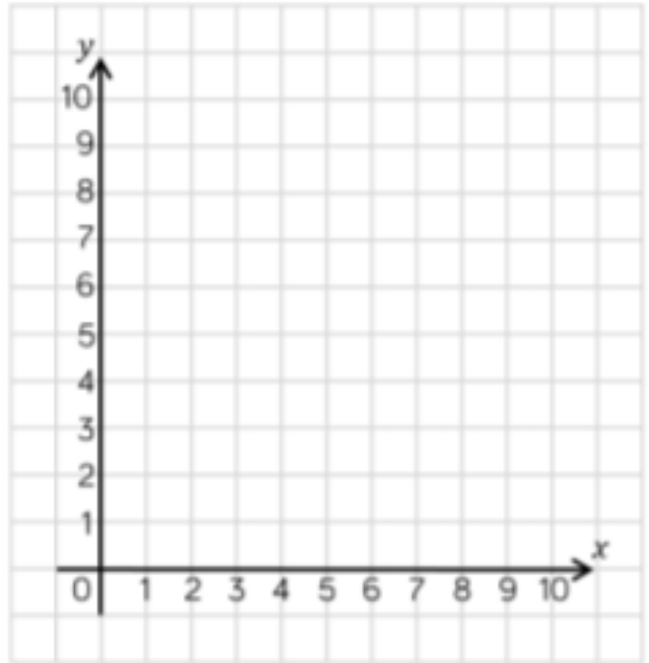
(4, 6)



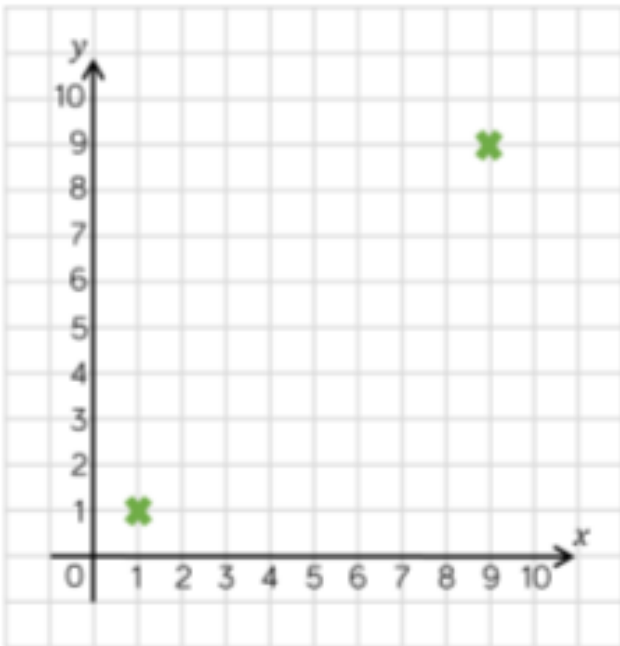
(9, 1)



(10, 0)



Plot two more points to create a square



Plot these points on a grid.

(2,4) (4,2) (5,8) (7,6)

What Shape has been created?



What shapes could be made by plotting three more points?



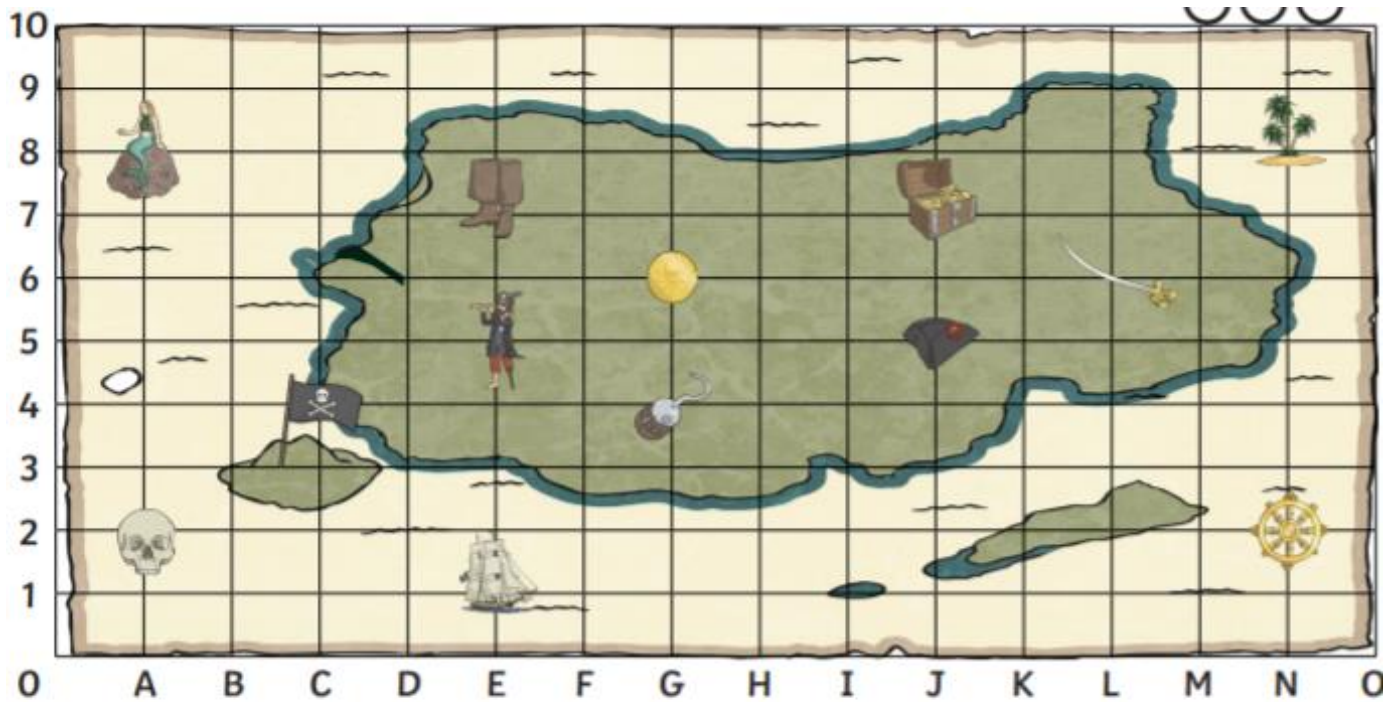
When you are plotting a point on a grid it does not matter whether you go up or across first as long as you do one number on each axis.



Amir

Do you agree with Amir?
Convince me.

Maths Activity 3: Reading Writing and Plotting Coordinates



What is at these coordinates on the pirate map?

(E,5) = _____


(G,6) = _____


(L,6) = _____


(J,7) = _____


(A,8) = _____


Write the coordinate of these places on the pirate map:

 = (,)

 = (,)

 = (,)

 = (,)

 = (,)

Plot these coordinates on the grid using a cross.

(B,1)

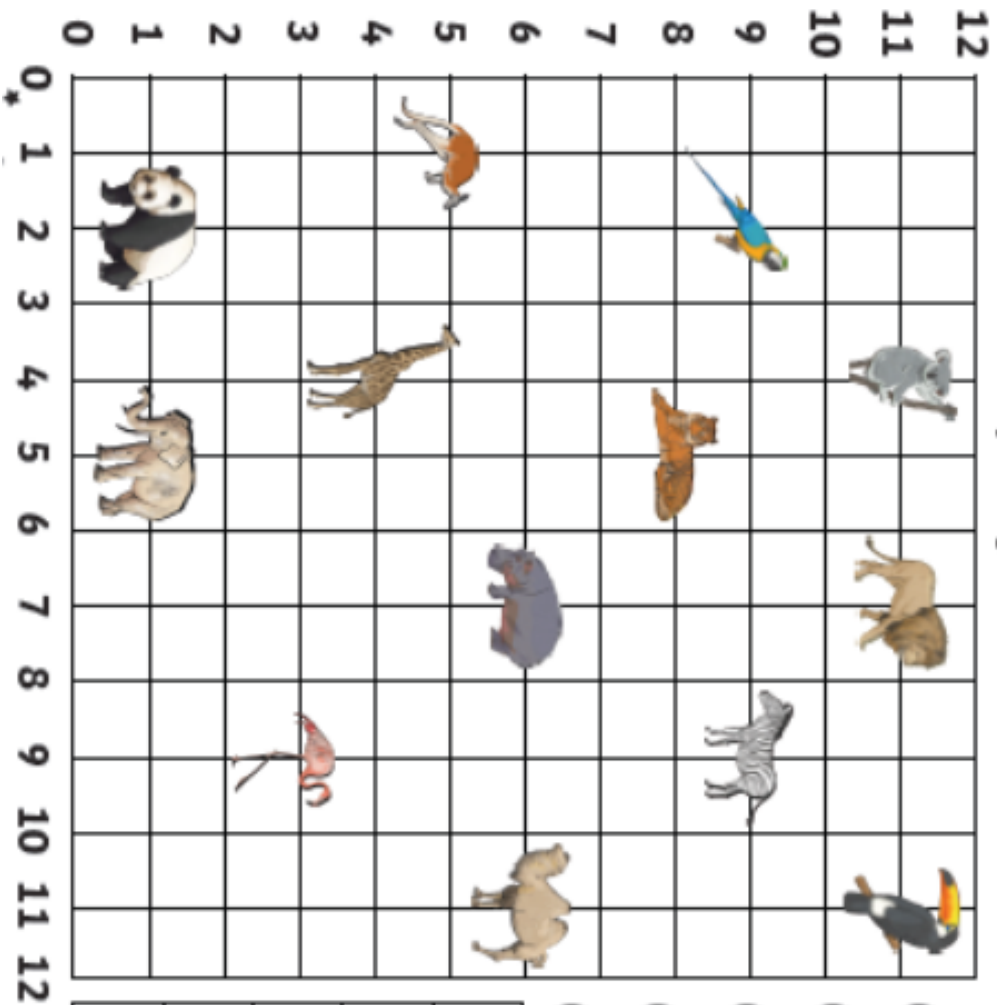
(N,5)

(I,5)

(D,9)

(H,10)

Which zoo animal is at the following coordinates?



(7,11) = _____ (7,6) = _____

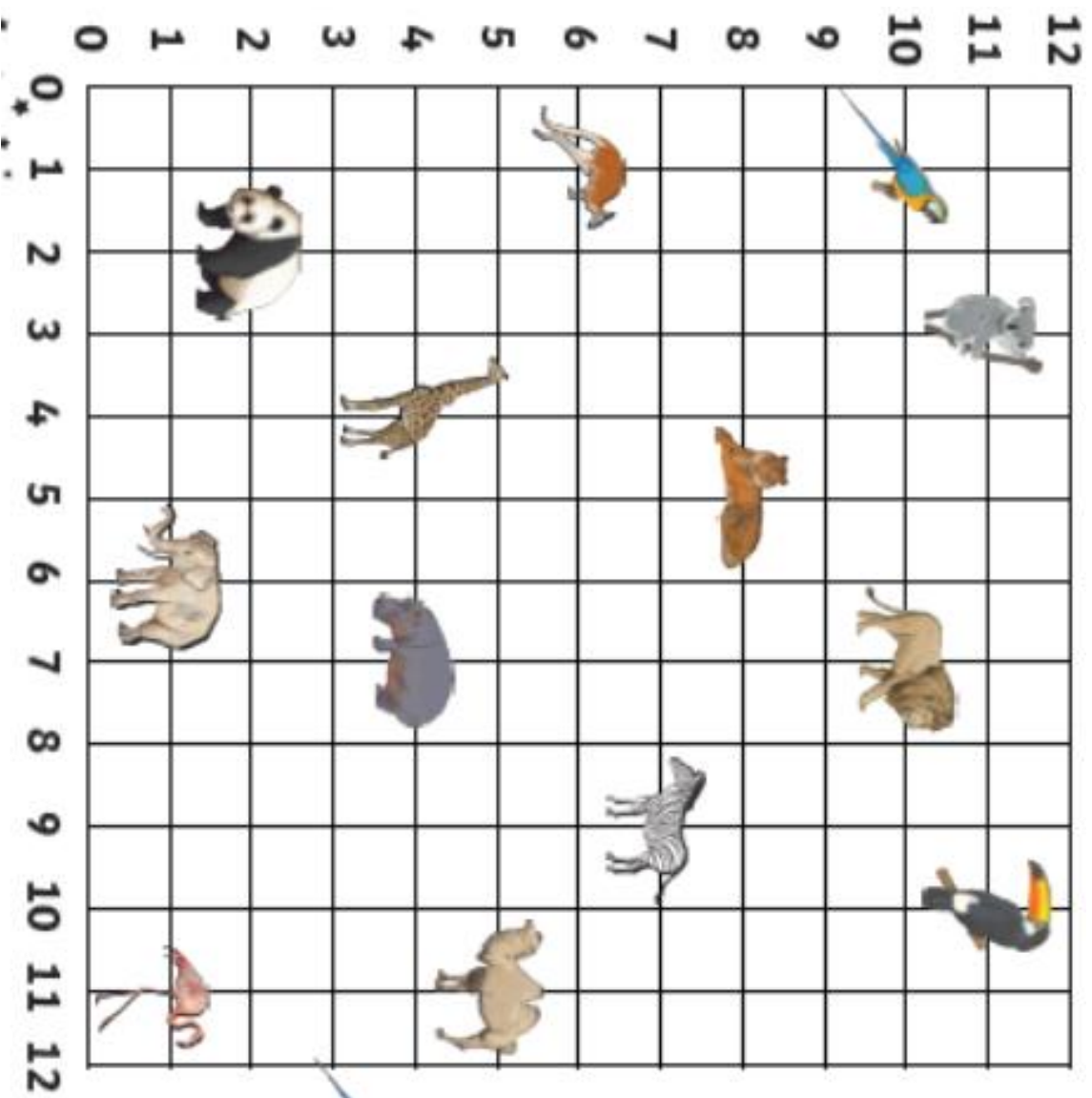
(2,1) = _____ (11,6) = _____

(11,11) = _____ (1,5) = _____

(9,3) = _____ (9,9) = _____

(4,11) = _____ (5,8) = _____

parrot	kangaroo	panda
koala	tiger	giraffe
elephant	flamingo	hippo
camel	zebra	lion
toucan		



Write the coordinates for the zoo animals:



= (,)



= (,)



= (,)



= (,)



= (,)



= (,)



= (,)



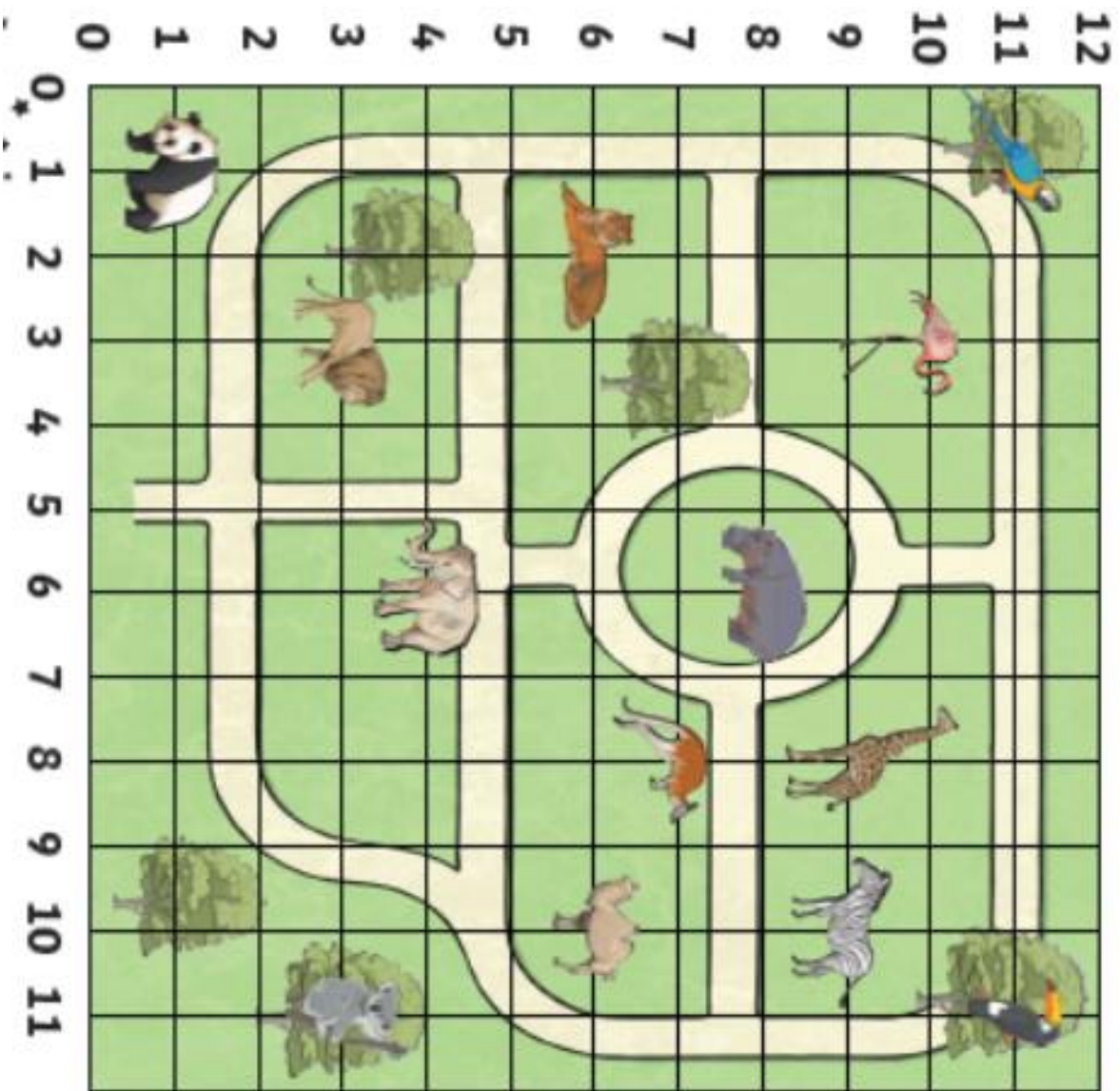
= (,)



= (,)



= (,)



Which animal is at these coordinates on the zoo map?

(11,11) - _____ (2,6) - _____

(6,8) - _____ (3,10) - _____

(11,3) - _____ (1,1) - _____

Write the coordinates of these animals on the zoo map:

	-	_____		-	_____
	-	_____		-	_____
	-	_____		-	_____

Draw your own zoo animals at these coordinates on the map:

(6,1) (2,9) (7,3)

(8,3) (8,6) (11,1)