

# **Hello Year 4!**

**It's now the second half of the summer term. We are so proud of your hard work with all your online learning.**

**We know you're giving it your best go!**

**We have set up your learning for the next week as daily slides for you to follow.**

**Please follow the instructions on each page to help you - we look forward to hearing about how you have got on!**

**Miss Hill and Mrs Tally**

# Notes for Maths Online Learning

- You will need a pencil and a piece of paper, if you have a pad you can keep working from this would be ideal.
- All MyMaths Online lessons will have unlimited availability for you to complete. We will be able to access it each day to see how you got on and if you have completed the task we have set.
- After some sessions there will be a '**extra**' activity if you would like some additional reasoning work to do.
- We will endeavor to provide lessons and activities which you will not need to print off.



# St Catherine's Classroom Beliefs

- Mistakes are valuable.
- Everyone can learn maths to the highest level.
- Questions are really important.
- Depth is more important than speed.
- Maths is about making connections.

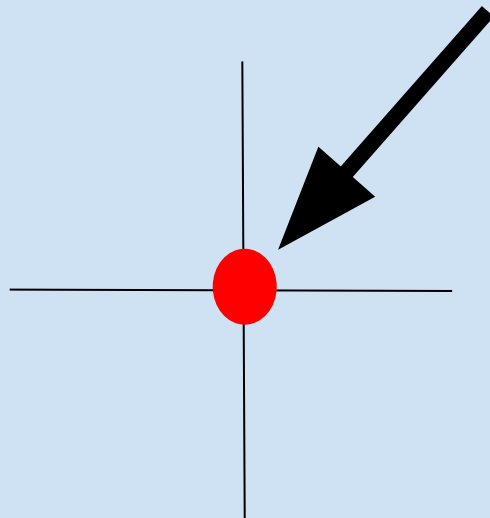
Session 1



## Position and Direction - Describing Position

This is potentially new learning for the children, we will aim to do a variety of activities this week, more in-depth coverage will occur when the children are in school.

- Describe positions in the first quadrant
- Read, write and use pairs of coordinates
- Order of x axis and y axis
- The coordinate is always where the two lines cross



## Key Vocabulary

## Position in the First Quadrant

coordinate

quadrant

x-axis

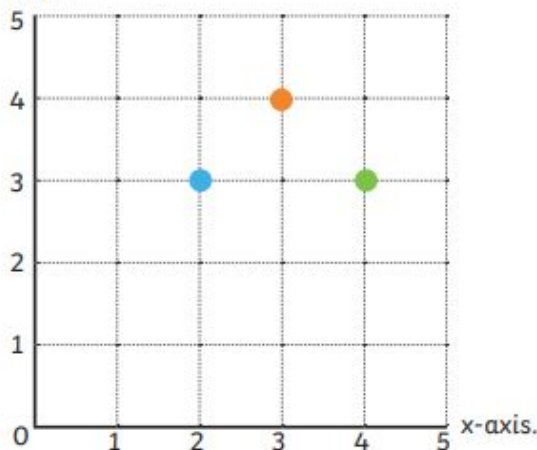
y-axis

translation

vertex

vertices

y-axis.



Coordinates are a useful way to locate a position on a map or grid.

The numbers across the horizontal line of the grid are on the **x-axis**.

The numbers on the vertical line of the grid are on the **y-axis**.

We always read or write the number on the x-axis before the **y-axis**.

The x and y position are written in brackets with a comma.

The coordinate of the blue spot is **(2, 3)**.

To help you remember which point to read or write first, simply remember to move 'along the corridor and up the stairs'.

In other words, move on the x-axis and then move on the y-axis.



# Monday 6th July

Write the coordinates for the points shown.

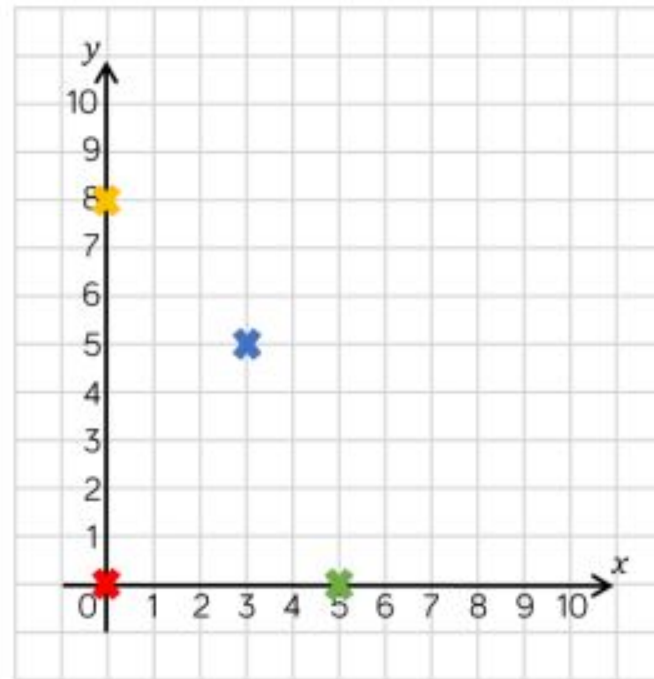
✕ ( \_\_ , \_\_ )   ✕ ( \_\_ , \_\_ )

✕ ( \_\_ , \_\_ )   ✕ ( \_\_ , \_\_ )

REMEMBER:

x-axis = Along the corridor →

y-axis = Up the stairs ↑



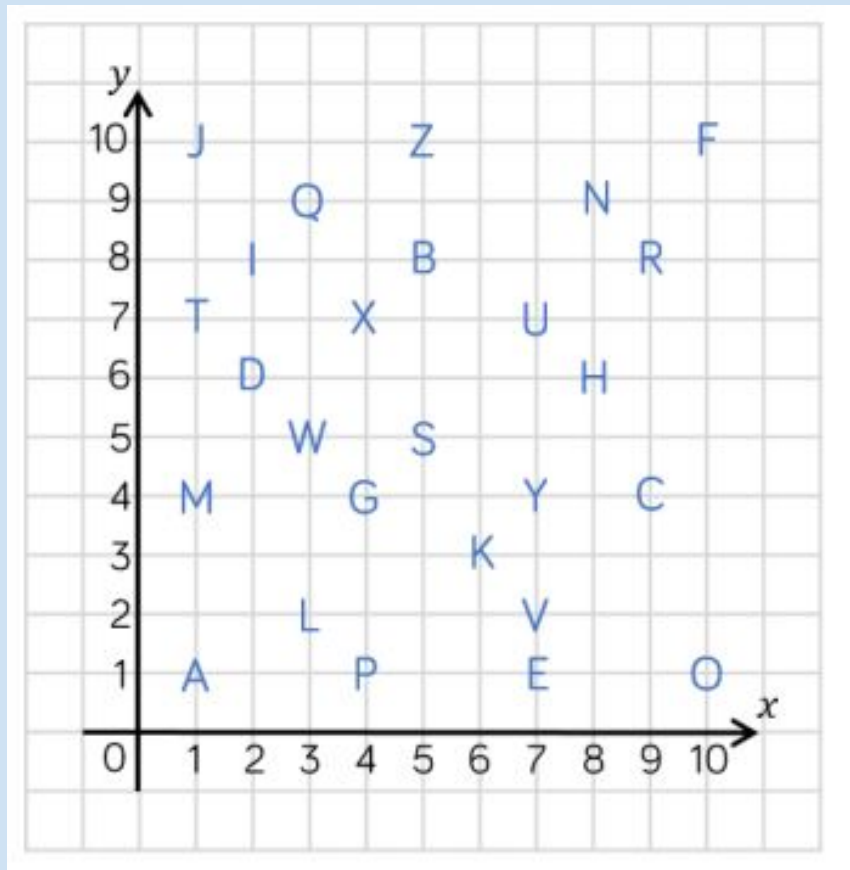
# Monday 6th July

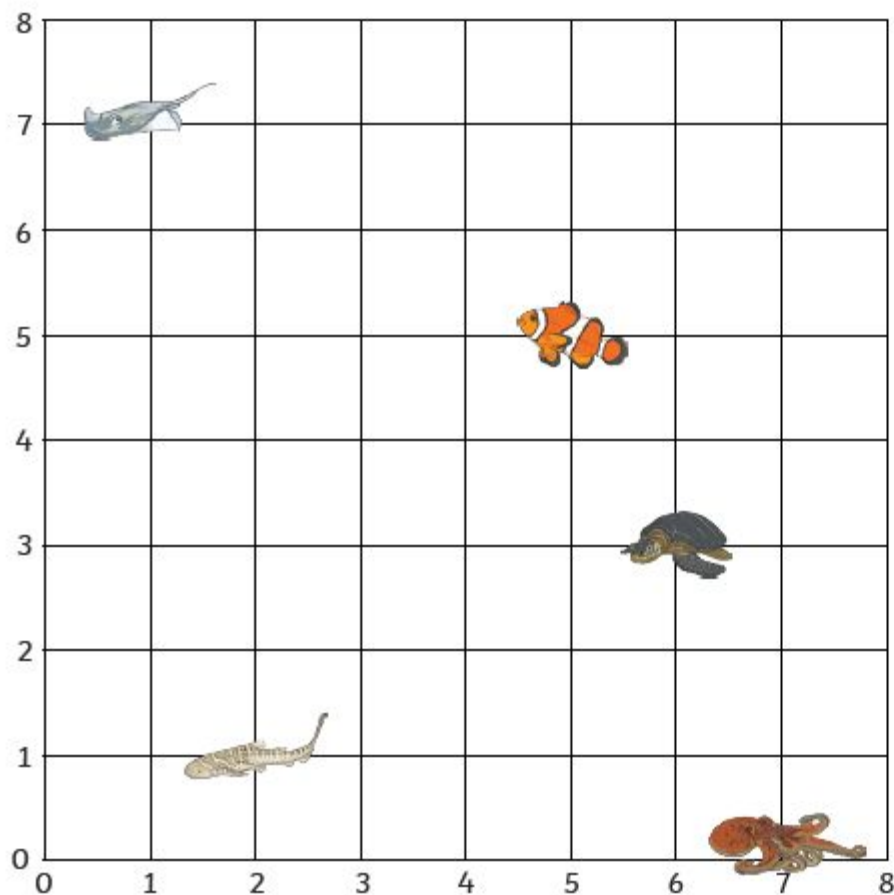
Write out the coordinates that spell out  
your name!

Miss Hill =

(1,4) (2,8) (5,5) (5,5)

(8,6) (2,8) (3,2) (3,2)





 clownfish = ( 5 , 5 )

 zebra shark = ( 2 , 1 )

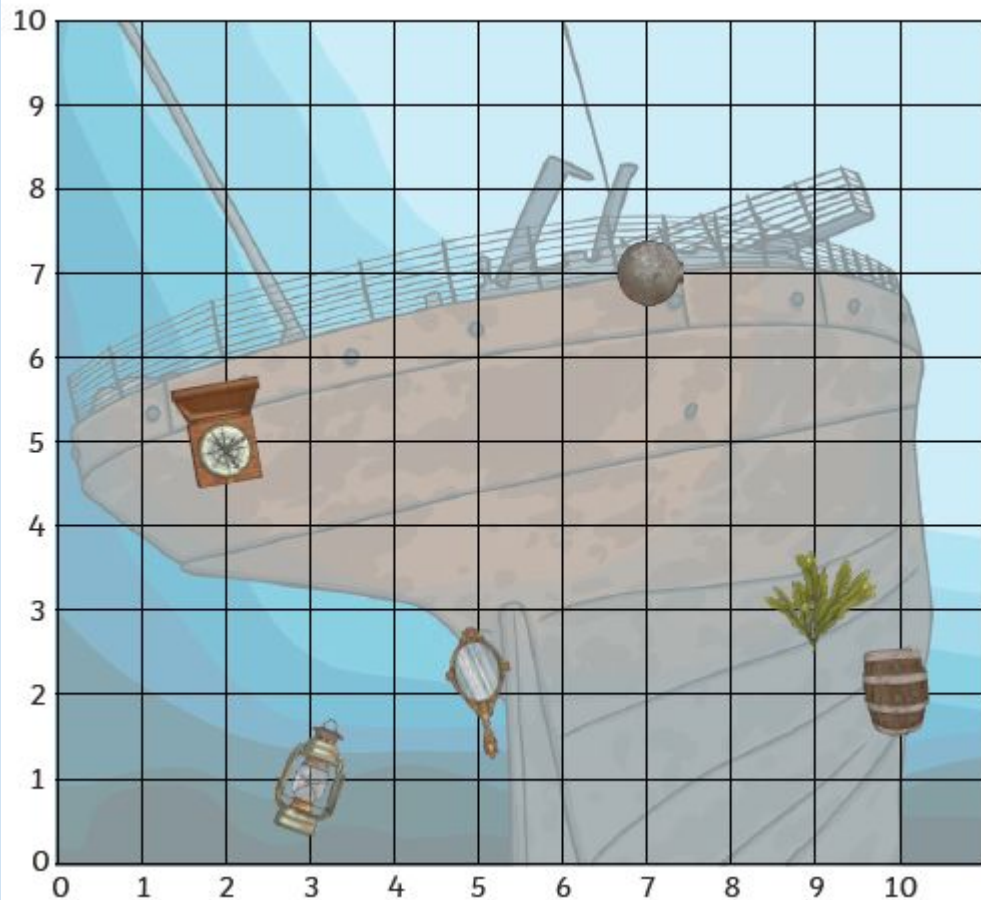
 stingray = ( 1 , 7 )

 octopus = ( 7 , 0 )

 turtle = ( 6 , 3 )

Martin has gone scuba diving. He has a list of sea creatures that he really wants to see. Can you give him the coordinates to find each of the sea creatures on his list?

Sienna is studying a shipwreck. She needs to record what item she found at each location on the grid. Help her by drawing or writing the names of the shipwrecked items next to the correct coordinates.



= (3,1)

= (2,5)

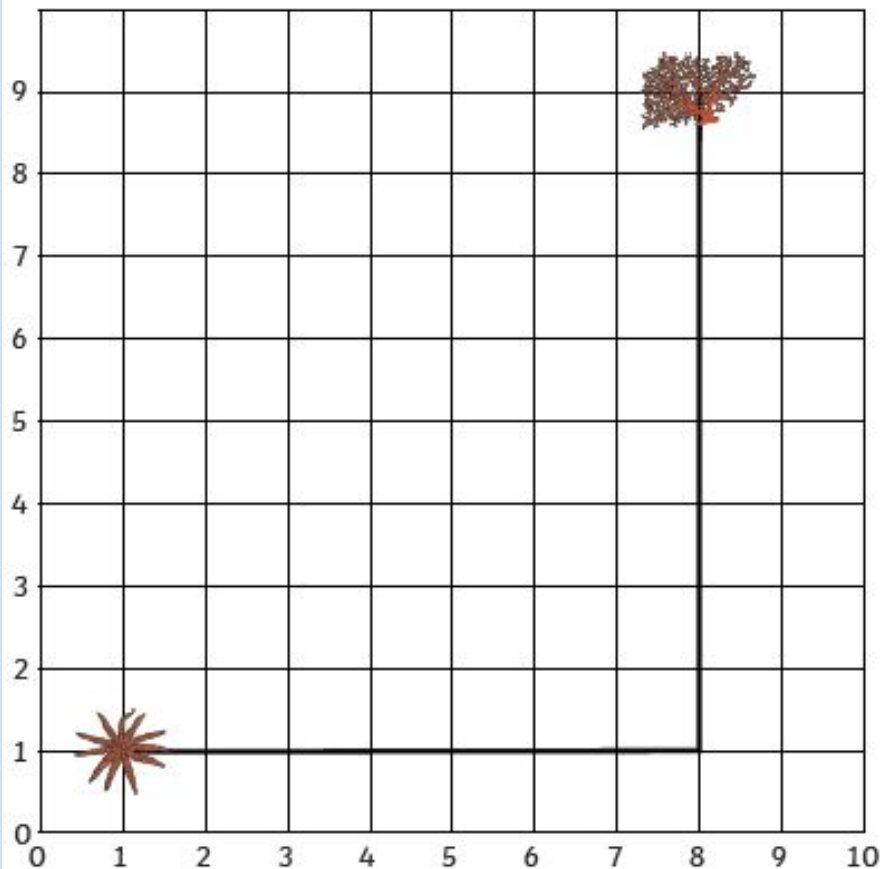
= (10,2)

= (9,3)

= (7,7)

= (5,2)

This starfish is moving along the sea bed towards the coral. Here is the path the starfish takes to reach the coral.



The starfish has to travel 8 squares right and 9 squares up to get to the coral at (8,9).

**a)** Is Kenneth right? Explain your reasoning.

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**b)** Write two true statements and one false statement about the coordinates the starfish travels along.

# St Catherine's Classroom Beliefs

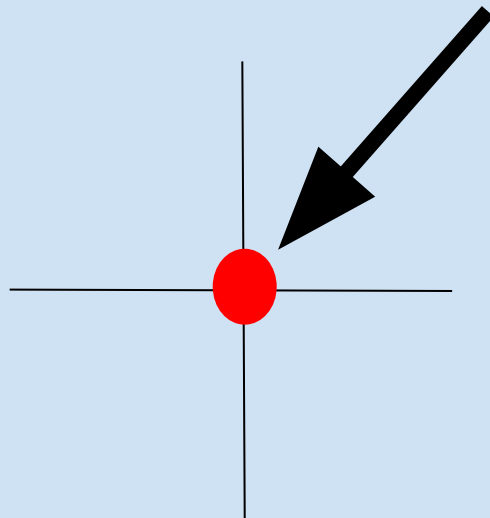
- Mistakes are valuable.
- Everyone can learn maths to the highest level.
- Questions are really important.
- Depth is more important than speed.
- Maths is about making connections.

Session 2



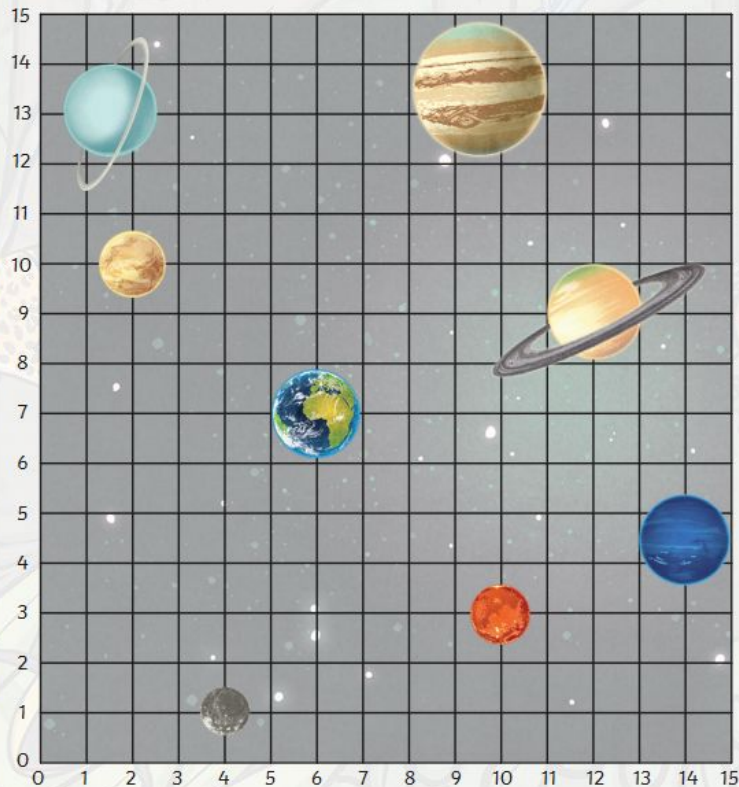
## Position and Direction - Describing Position

- Describe positions in the first quadrant
- Read, write and use pairs of coordinates
- Order of x axis and y axis
- The coordinate is always where the two lines cross



# Tuesday 7th July

## Describing Position

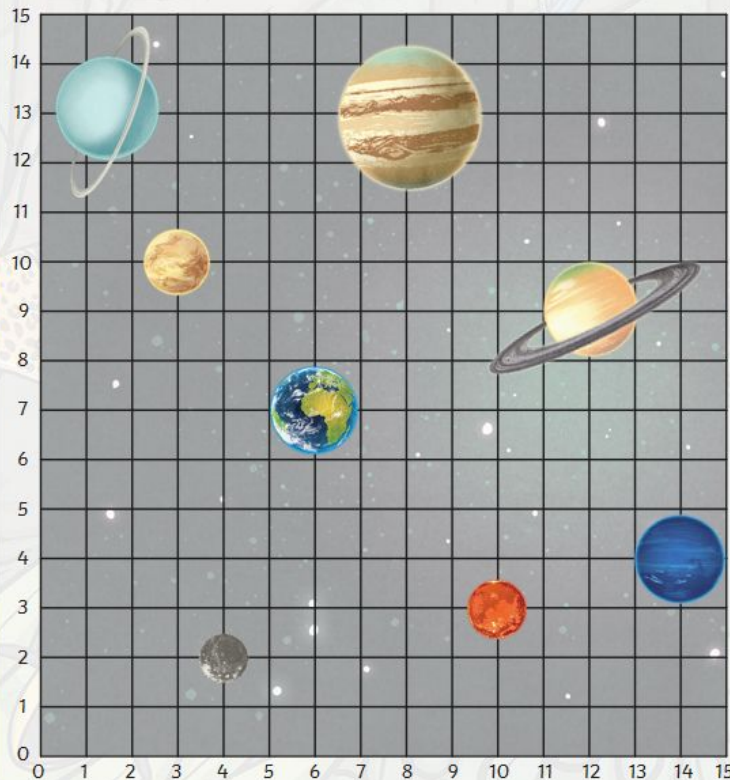


Give all the coordinates for each planet. Make sure to list all the coordinates for any planet that covers more than one coordinate. (Do not include coordinates that are covered by a planet's rings.)

-  Mercury =
-  Venus =
-  Earth =
-  Mars =
-  Saturn =
-  Jupiter =
-  Uranus =
-  Neptune =

# Tuesday 7th July

## Describing Position



Each of the descriptions below matches one of the coordinates for one of the planets. Can you work out which description matches with which planet?

- One of these planet's has consecutive x-coordinates and y- coordinates.
- The x-coordinate of this planet is twice its y-coordinate.
- This planet has an x-coordinate that is 10 more than its y-coordinate.

# Tuesday 7th July

We will be learning using MyMaths Online.  
Follow the lesson and complete the activity

 Lesson | Coordinates 1

1

2

3

4

5

6

|   | Chapter title          |
|---|------------------------|
| 1 | Describing points >    |
| 2 | Coordinates practice > |
| 3 | Treasure map >         |
| 4 | Plotting coordinates > |
| 5 | Coordinate codes >     |
| 6 | Beat the clock >       |

**Objectives:**

- Reading and plotting positive coordinates
- Looking at shapes and patterns in coordinates

1

2

3

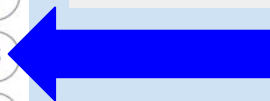
4

5

6

Go through the lesson, steps 1 - 6.

This is interactive, you can click and type to check your understanding!

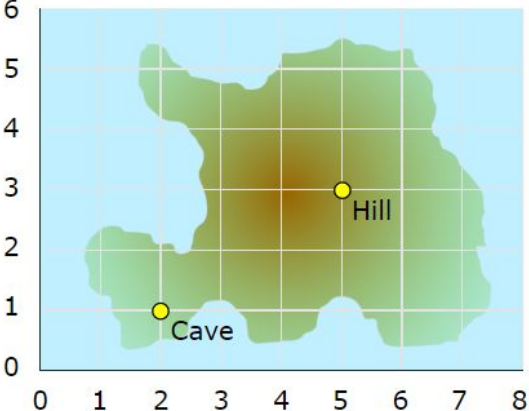


# Tuesday 7th July

We will be learning using MyMaths Online.  
Follow the lesson and complete the activity

Online Homework | Coordinates 1 – positive

Q1 – Simple coordinates



What are the coordinates of these places?

Cave (  ,  ) [2]

Hill (  ,  ) [2]

Drag the dots to the correct places on the map.

☐ (3 , 3)    ☐ (4 , 5)

Position of (3 , 3) [2]

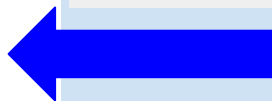
Position of (4 , 5) [2]

Mark it

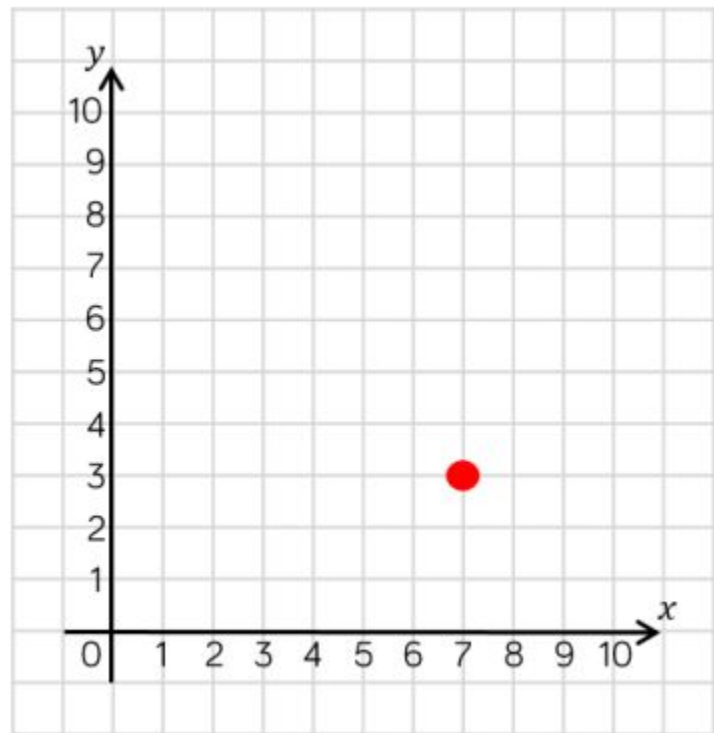
Now have a go at the activity!

We look forward to seeing  
how you got on!

Good Luck!



# Tuesday 7th July



The point is plotted  
at  $(7, 3)$



Teddy



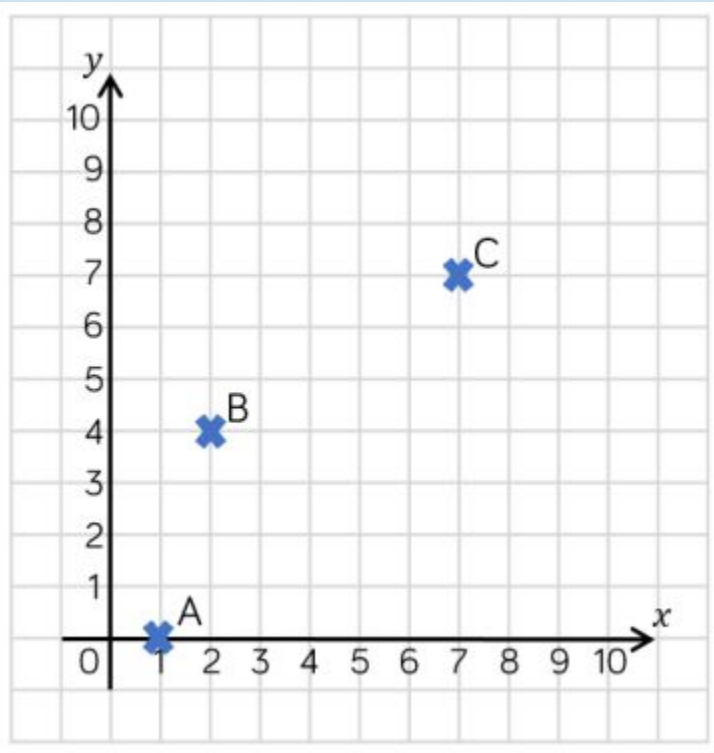
Rosie

The point is plotted  
at  $(3, 7)$

Who is correct?

What mistake has one of the children  
made?

# Tuesday 7th July



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.

# St Catherine's Classroom Beliefs

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Session 3



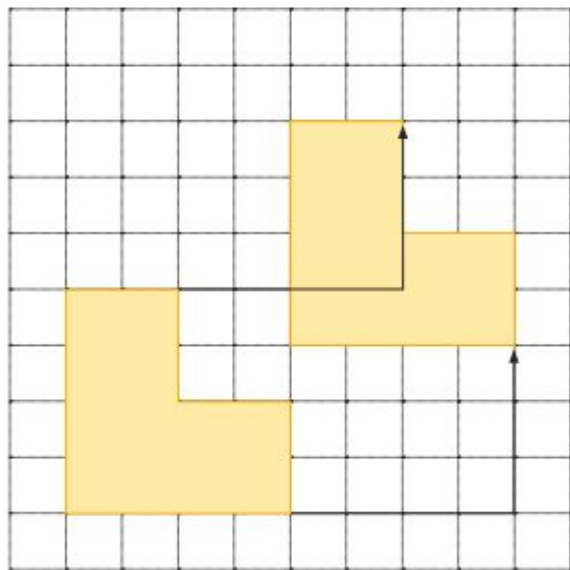
## Position and Direction - Move on a grid

- Follow specific directions using language such as left/right and up/down.
- Translating or translation = moving shapes and points on a coordinate grid.
- Explain the reverse translation
- Use correct vocabulary
- Use correct coordinates
- When moving a shape or point **left/right** then **up/down**

## Translation

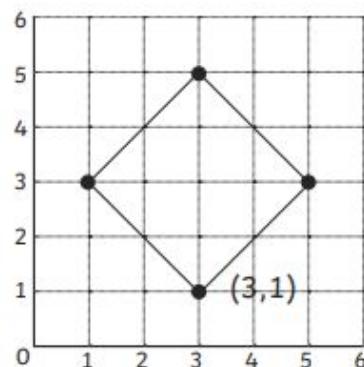
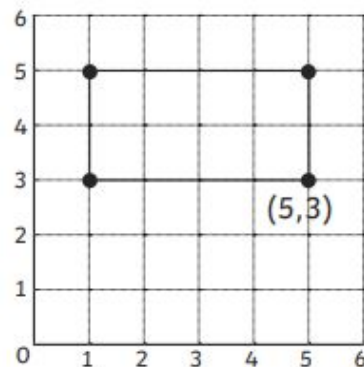
In maths, translation means moving an object on a grid. The object is moved without changing the size, turning or reflecting it.

When translating an object on a grid, it can move up or down, left or right.

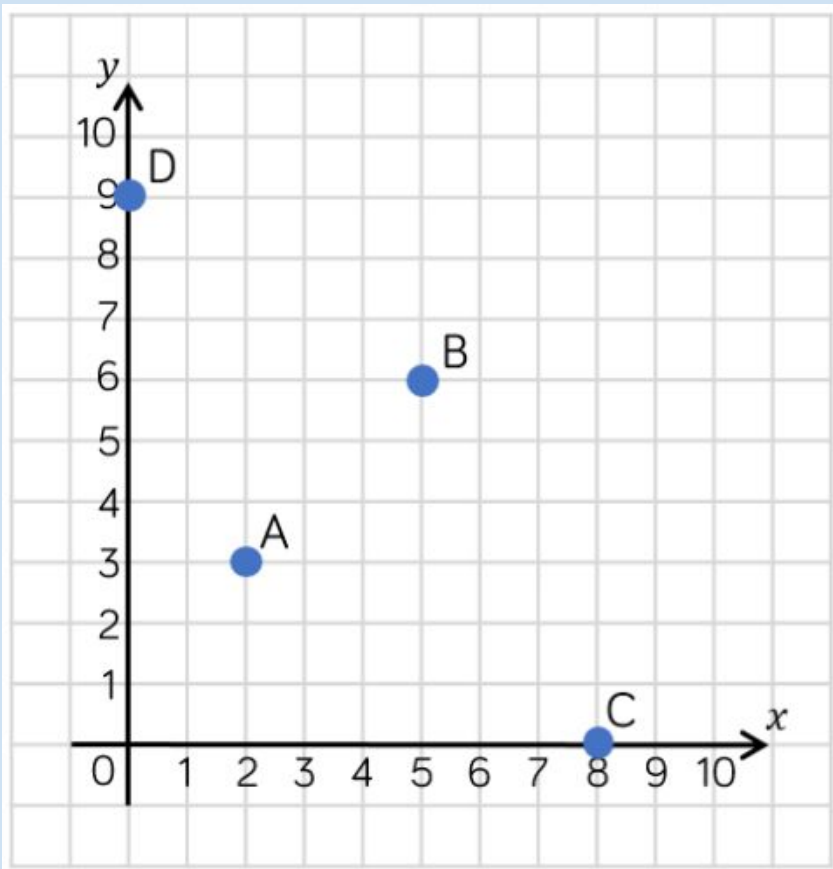


## Plotting 2D Shapes

Each vertex (corner) of a 2D polygon can be represented as a coordinate on a 2D grid.



# Wednesday 8th July



Translate A 6 right and 3 down.

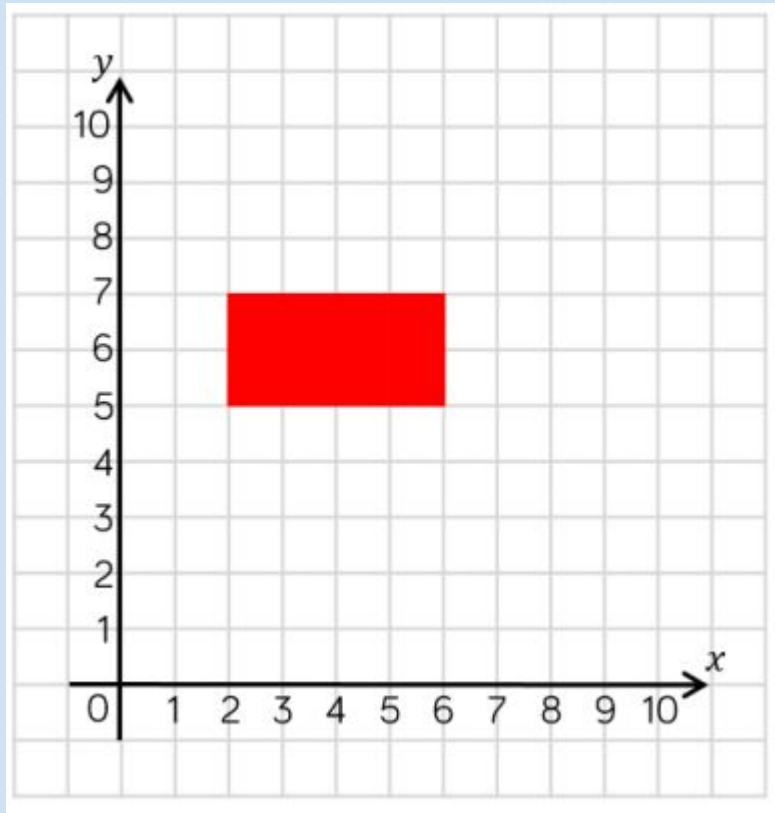
Record the coordinates before ( \_\_ , \_\_ )  
and after ( \_\_ , \_\_ )

Translate B and C 4 left and 3 up.

Record the coordinates before ( \_\_ , \_\_ )  
and after ( \_\_ , \_\_ )

## Wednesday 8th July

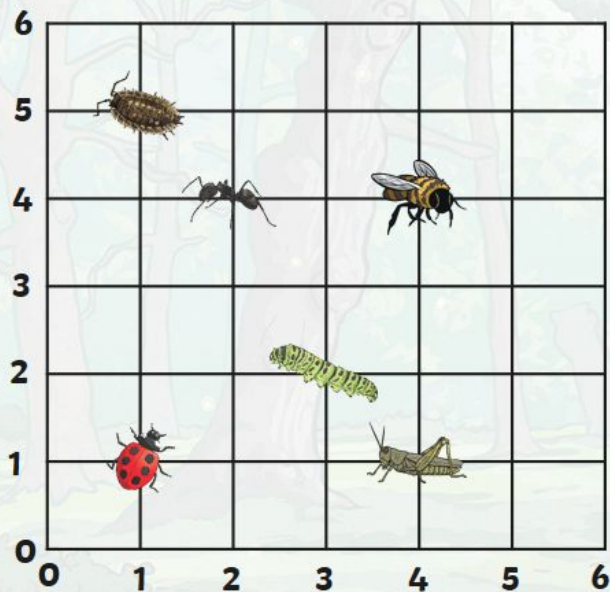
Translate the rectangle 2 left and 3 up.  
Write down the coordinates of each  
vertex of the rectangle before and after  
the translation.



# Wednesday 8th July

## Move on a Grid

Describe the translations:



to



to



to



to



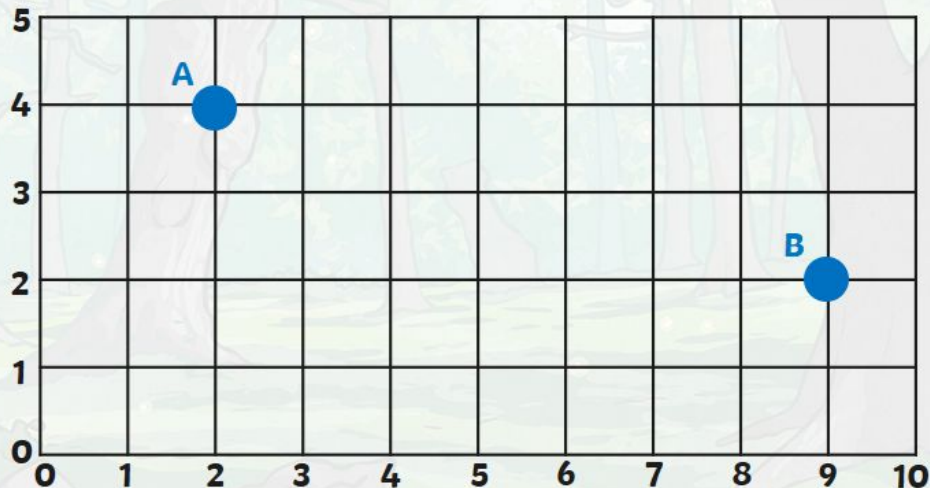
# Wednesday 8th July

## Move on a Grid

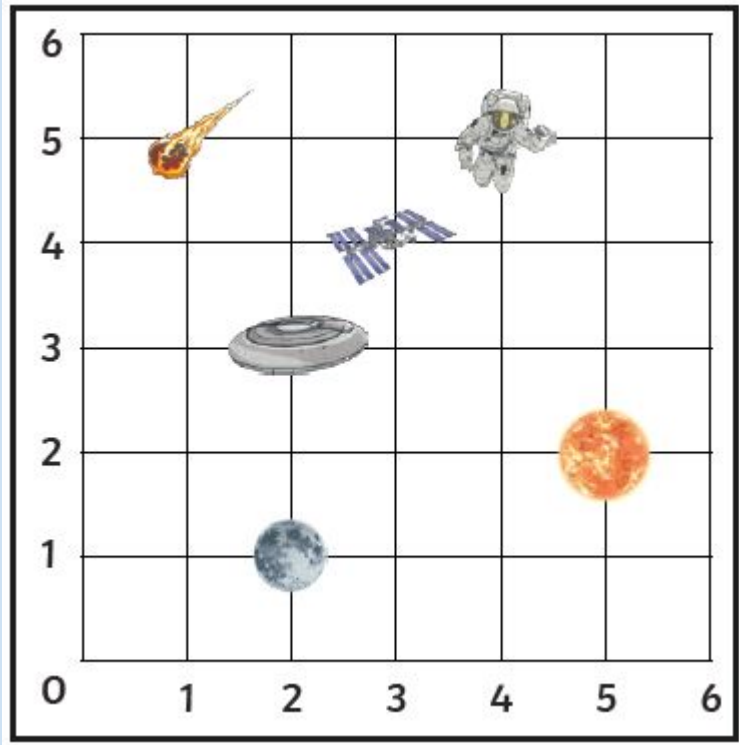


Point A has been translated 8 right and 3 down to end up at point B.

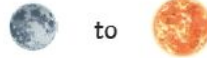
Do you agree with Sajid? Explain your reasoning referring to the grid.



# Wednesday 8th July

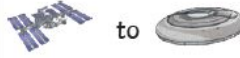


a)



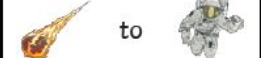
\_\_\_\_\_

b)



\_\_\_\_\_

c)



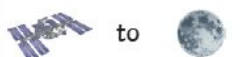
\_\_\_\_\_

d)



\_\_\_\_\_

e)



\_\_\_\_\_

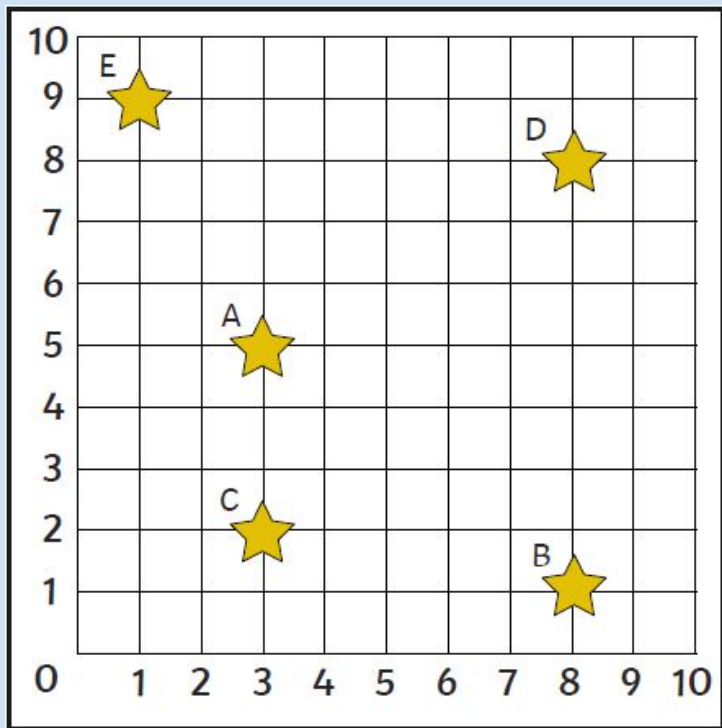
f)



\_\_\_\_\_

# Wednesday 8th July

A group of children are describing the translations of the stars on this grid. Decide if their statements are true or false. Explain your reasoning.



Kaspar says, 'The translation from D to E is 1 down and 7 right.'

Veronica says, 'The translation from B to A is 6 left and 5 up.'

Arthur says, 'The translation from C to D is 5 right and 6 up.'

Harriet says, 'The translation from E to B is 9 down and 8 right.'

# St Catherine's Classroom Beliefs

- Mistakes are valuable.
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Session 4



## Position and Direction - Move on a grid

- Follow specific directions using language such as left/right and up/down.
- Translating or translation = moving shapes and points on a coordinate grid.
- Explain the reverse translation
- Use correct vocabulary
- Use correct coordinates
- When moving a shape or point **left/right** then **up/down**

# Thursday 9th July

We will be learning using MyMaths Online.  
Follow the lesson and complete the activity

 Lesson | Translating

1

2

3

4

5

6

7

|   | Chapter title                 |
|---|-------------------------------|
| 1 | Describing points >           |
| 2 | Introducing translations >    |
| 3 | Identifying the translation > |
| 4 | Robot walk >                  |
| 5 | More than one direction >     |
| 6 | Coordinate game >             |
| 7 | The shape game >              |

**Objectives:**

- Describing positions on a grid as coordinates (in the first quadrant)
- Describing movements between positions as translations
- Plotting points and drawing sides to complete a given polygon

Go through the lesson, steps 1 - 7.

This is interactive, you can click and type to check your understanding!



6

7

# Thursday 9th July

We will be learning using MyMaths Online.  
Follow the lesson and complete the activity

 Online Homework | Translating Menu

Q1 Moving coordinates

Starting at (2,1) for each translation, what will be the new coordinates of the robot after the translation?

Q2

**RIGHT 2** (  ,  )

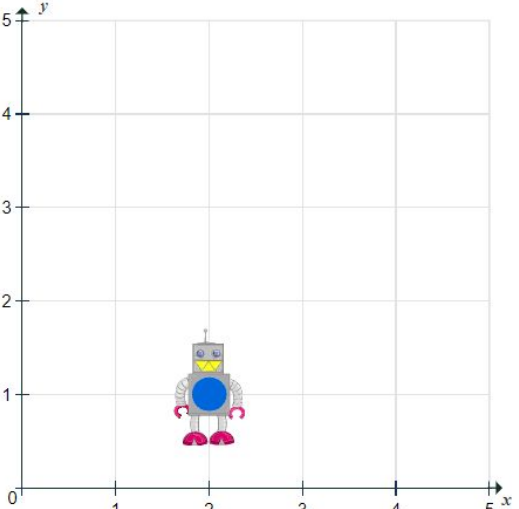
**UP 2** (  ,  )

**LEFT 2** (  ,  )

**DOWN 1** (  ,  )

No calc

Total



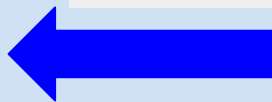
[4]

Mark it

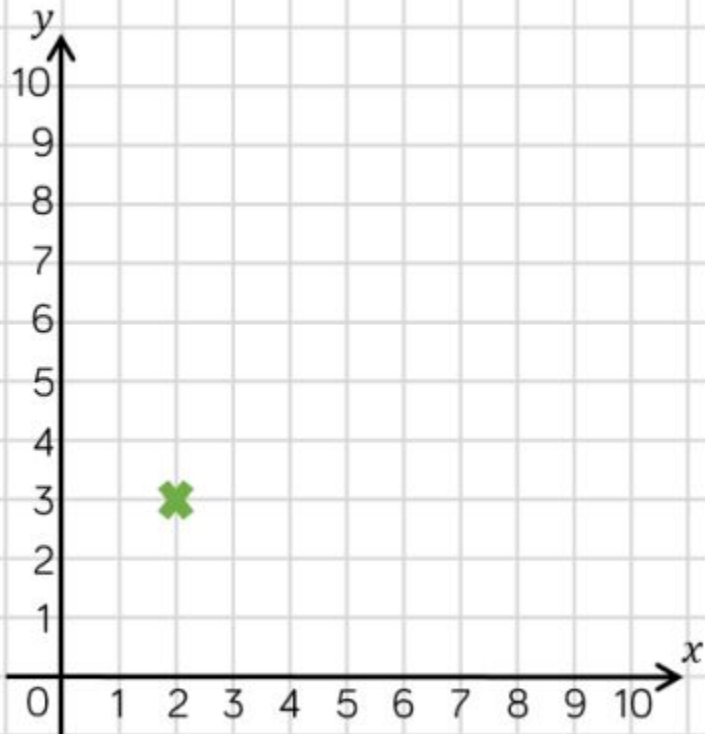
Now have a go at the activity!

We look forward to seeing  
how you got on!

Good Luck!



# Thursday 9th July



Ron translates the point  $(2, 3)$ , but realises that it has returned to the same position.

What translation did he do?

Is there more than one answer?

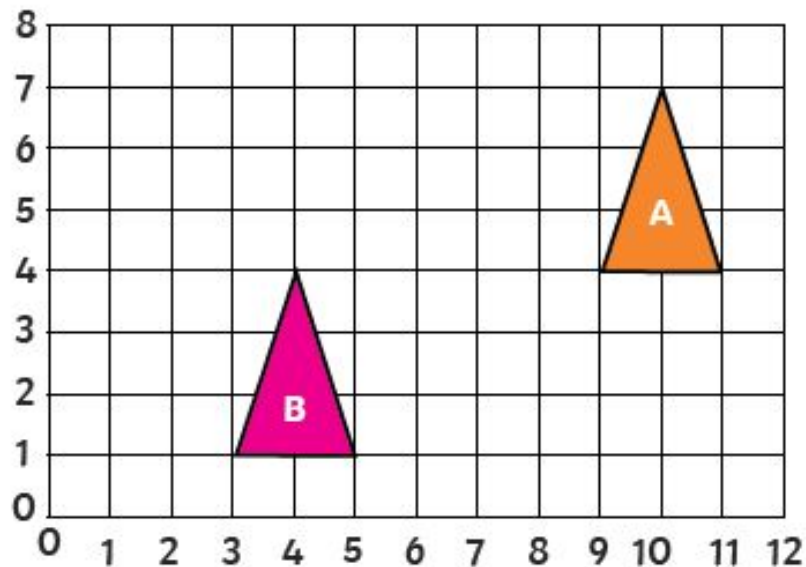
# Thursday 9th July



Translating a shape  
right 5, up 4 is the  
same as translating a  
shape right 4 and up 5.

Do you agree?

# Thursday 9th July



Triangle A has been translated left 4, down 6 to become triangle B.

Do you agree? Explain your reasoning.

# St Catherine's Classroom Beliefs

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Session 5



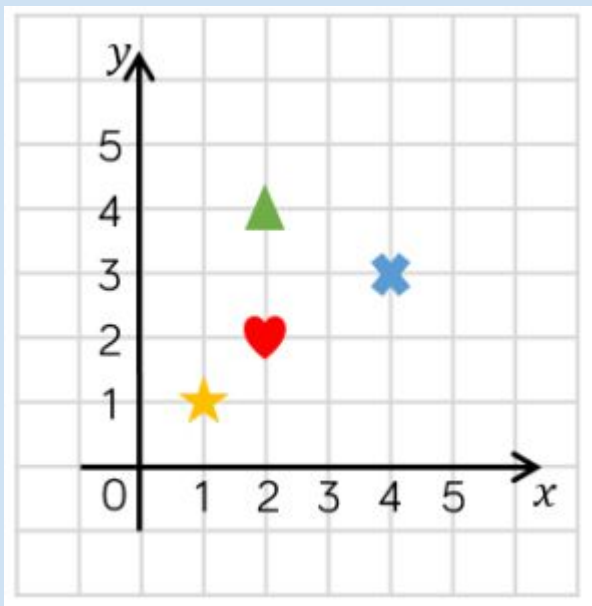
## Position and Direction - Describe Movement

- Use specific language to describe the movement of a shape on a coordinate grid
- Understand that corresponding vertices when describing the translation of a shape.
  - The same vertex after you have moved a shape from one place to another

Sentence Stems:

**Always start with the left/right translation followed by the up/down translation**

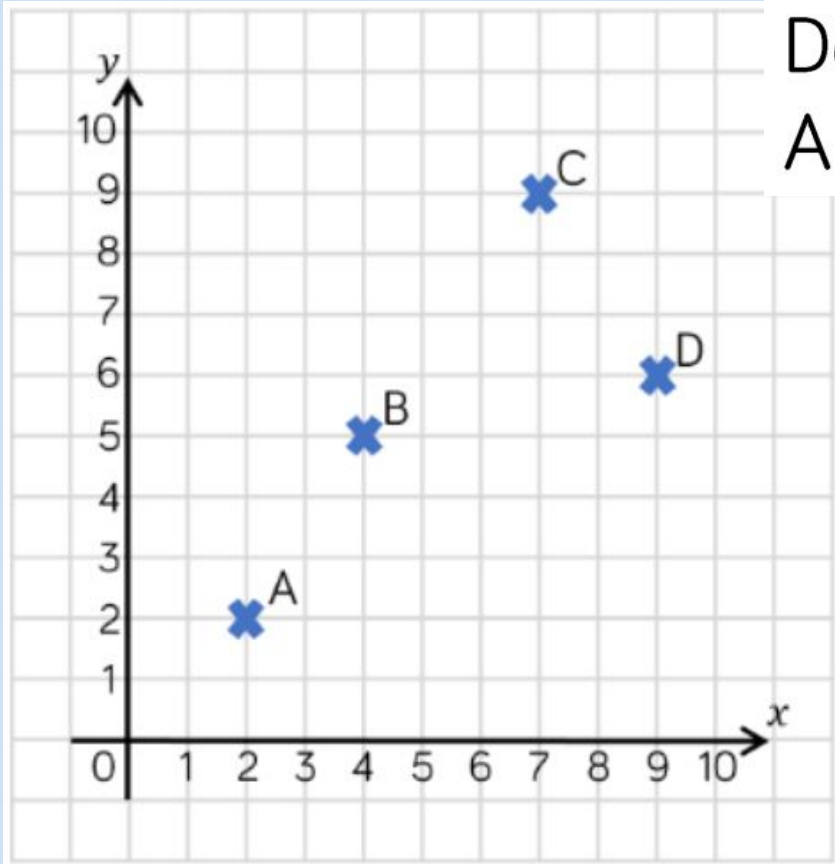
Friday 10th July



Describe the translation from:

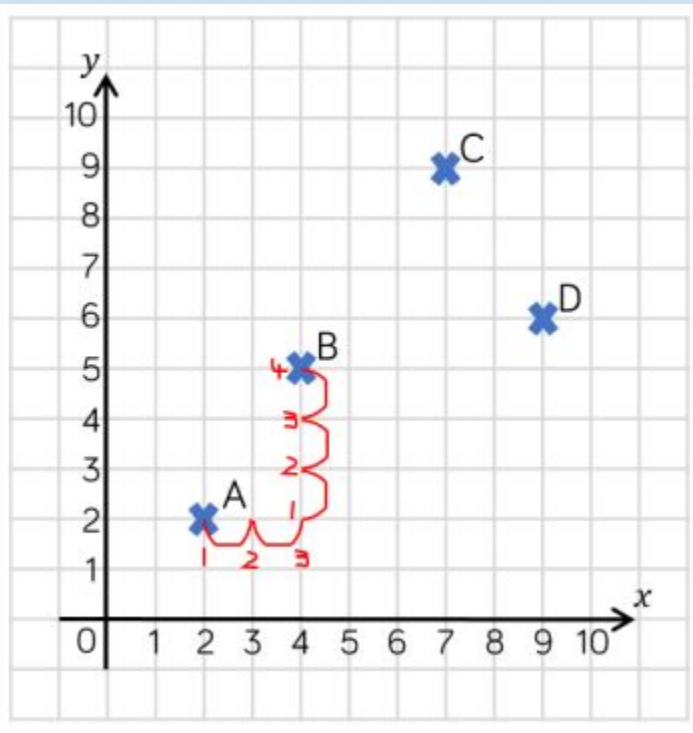


Friday 10th July



Describe the translation from:  
A to B    B to C    C to D    D to A

# Friday 10th July



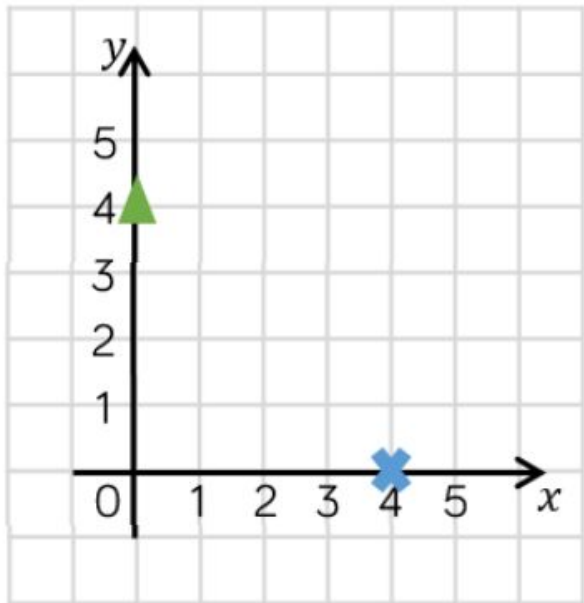
Tommy has described the translation from A to B as 3 right and 4 up.

Can you explain his mistake?

# Friday 10th July

▲ to ✖ is 4 right and 4 down.

✖ to ▲ is 4 left and 4 up.



Can you plot other pairs of points where to move between them, you travel the same to left or right as you travel up or down?

What do you notice about the coordinates of these points?

Friday 10th July



Brush up your  
maths skills while  
defending the  
people of  
[Mathematica](#)



# Answers

06.07.20

$\text{X} = (0,8)$   $\text{X} = (3,5)$   $\text{X} = (0,0)$   $\text{X} = (5,0)$

clownfish = (5,5)

zebra shark = (2,1)

stingray = (1,7)

lamp = (3,1)

compass = (2,5)

barrel = (10,2)

octopus = (7,0)

turtle = (6,3)

seaweed = (9,3)

cannon ball = (7,7)

mirror = (5,2)

No. Kenneth hasn't realised that, as it starts at coordinate (1,1), the starfish will travel 7 squares right and 8 squares up to reach the coral.

Answers will vary.

# Answers

07.07.20



Mercury = (4,1)



Venus = (2,10)



Earth = (6,7)



Mars = (10,3)



Saturn = (12,9)



Jupiter = (9,14) (10,14)  
(9,13) (10,13)



Uranus = (1,13) (2,13)



Neptune = (14,5) (14,4)

- One of these planet's has consecutive x-coordinates and y- coordinates. **Earth**
- The x-coordinate of this planet is twice its y-coordinate. **Mercury**
- This planet has an x-coordinate that is 10 more than its y-coordinate. **Neptune**

Teddy is correct

Rosie has read the y-axis before the x-axis.

Clue 1 = B

Clue 2 = A

Clue 3 = C

# Answers

08.07.20

**A:** Before = (2,3) After = (8,0)

**B:** Before = (5,6) After = (1,9)

**C:** Before = (8,0) After = (4,3)

Rectangle:

Before = (2,5) (2,7) (6,5) (6,7)

After = (0,8) (0, 10) (4,8) (4,10)

left 3, down 3

right 2, down 3

right 2, down 3

right 1, up 3

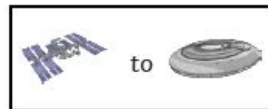
Sajid has counted from the point, instead of counting the 'jumps' the point makes along the grid lines. The correct translation is 7 right and 2 down.

a)



3 right, 1 up

b)



1 down, 1 left

c)



4 right

d)



4 left, 3 up

e)



1 left, 3 down

f)



3 right, 2 up

- 1) Kaspar got the translation back to front. It should be 7 left and 1 up.
- 2) Veronica has counted from the point before it had actually moved, so she has added one to both the left and the up amount. It should be 5 left and 4 up.
- 3) Arthur is right.
- 4) Harriet has miscounted. It should be 8 down and 7 right.

# Answers

09.07.20

Range of answers, e.g. Translate 1 left and 1 right

Translate 1 left, 1 right, 2 up and 2 down.

*The child is wrong. The two translations would move the shape to a different position.*

*The child is incorrect. She has counted from the top vertex of the triangle to its bottom edge, and from the right vertex of the triangle to the left vertex of the triangle. The correct translation is 6 left, 3 down.*

# Answers

10.07.20

|                 |                |
|-----------------|----------------|
| Right 2, down 1 | left 1, down 1 |
| Down 2          | right 3, up 2  |

A-B = right 2 up 3

B-C = right 3 up 4

C-D = right 3 down 3

D-A = left 7 down 4

Tommy has counted one move to the right when he hasn't moved anywhere yet. He has done the same for one move up when he hasn't moved up one space yet.

Possible answers

include:

(0,1) (1,0)

(0,2) (2,0)

(0,3) (3,0)

(0,5) (5,0)

(1,1) (3,3)

(0,0) (4,4)