

Monday 1st June 2020

L.O. – To understand translation of a shape.

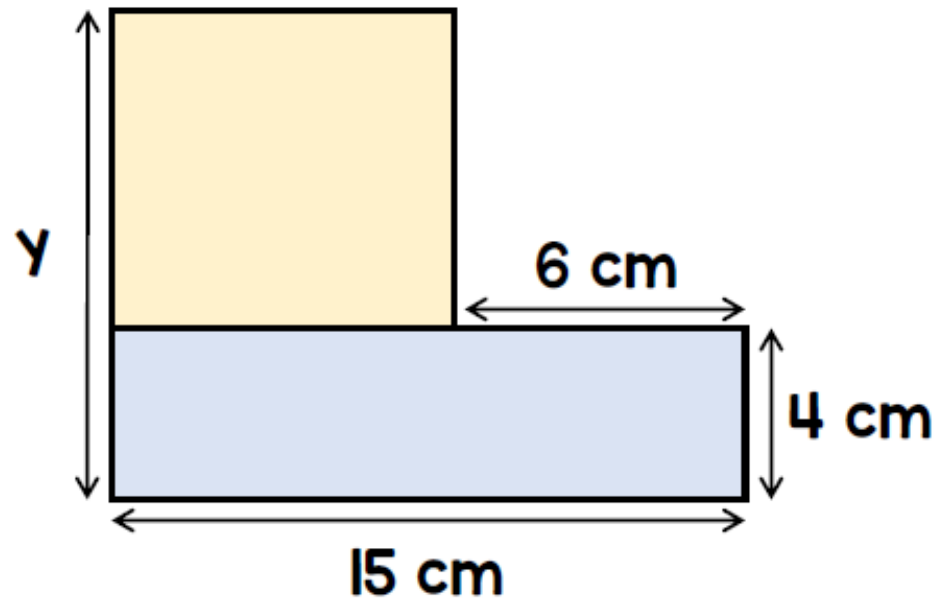
\*Parents – Please note that the answers for most problems will be shown on the next slide. Please get your children to answer these prior to moving to next slide.

There is also a Parents Only answer sheet for the daily worksheets.

# Problems of the day.

Hit space bar for answers but don't do it until you've tried!

- 1** The shape is made up of a square and a rectangle.



Find the length of the side y

- 2** Work out the missing numbers.

(a)  $5 \times \frac{2}{3} = \square \times \frac{1}{3}$

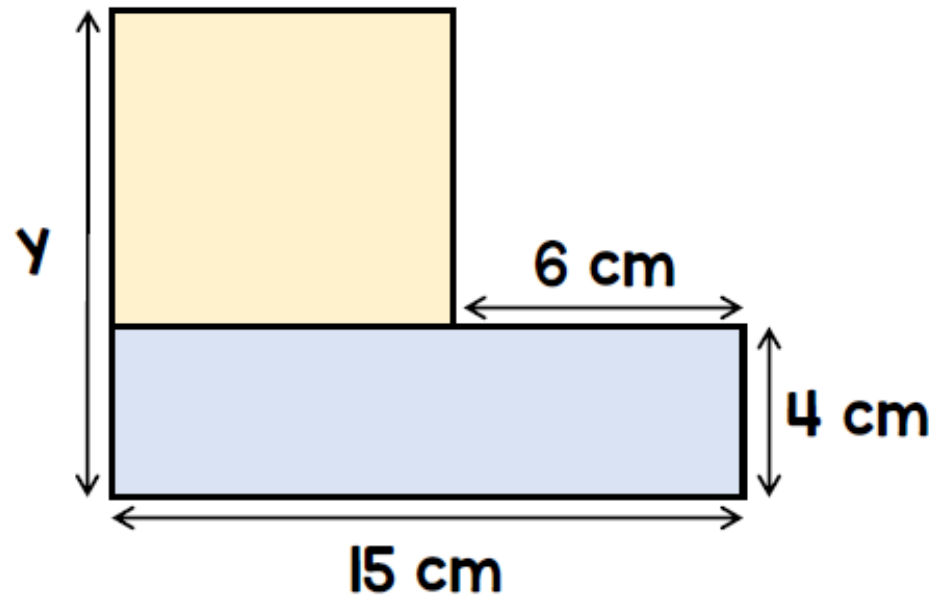
(b)  $10 \times \frac{3}{8} = \square \times \frac{5}{8}$

(c)  $5 \times \frac{1}{4} = \square \times \frac{1}{8}$

# Problems of the day.

Hit space bar for answers but don't do it until you've tried!

- 1** The shape is made up of a square and a rectangle.



Find the length of the side y

$$y = 13 \text{ cm}$$

- 2** Work out the missing numbers.

(a)  $5 \times \frac{2}{3} = \boxed{10} \times \frac{1}{3}$

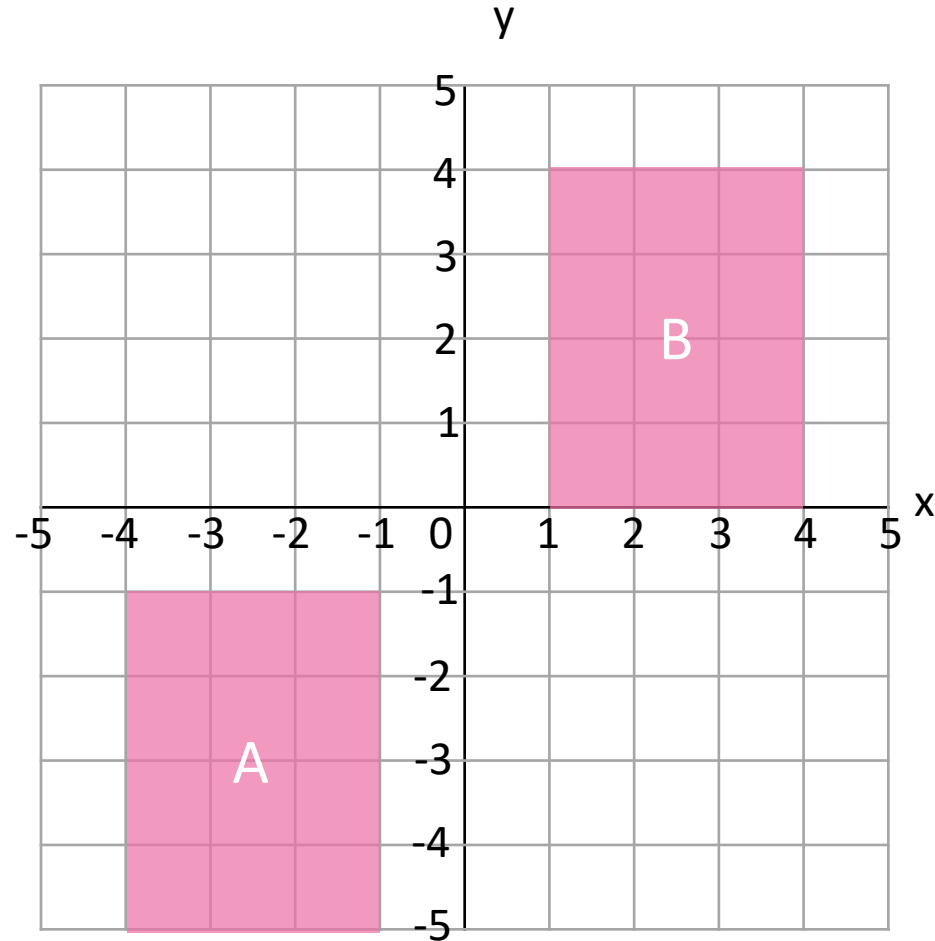
(b)  $10 \times \frac{3}{8} = \boxed{6} \times \frac{5}{8}$

(c)  $5 \times \frac{1}{4} = \boxed{10} \times \frac{1}{8}$

# What Is a Translation?

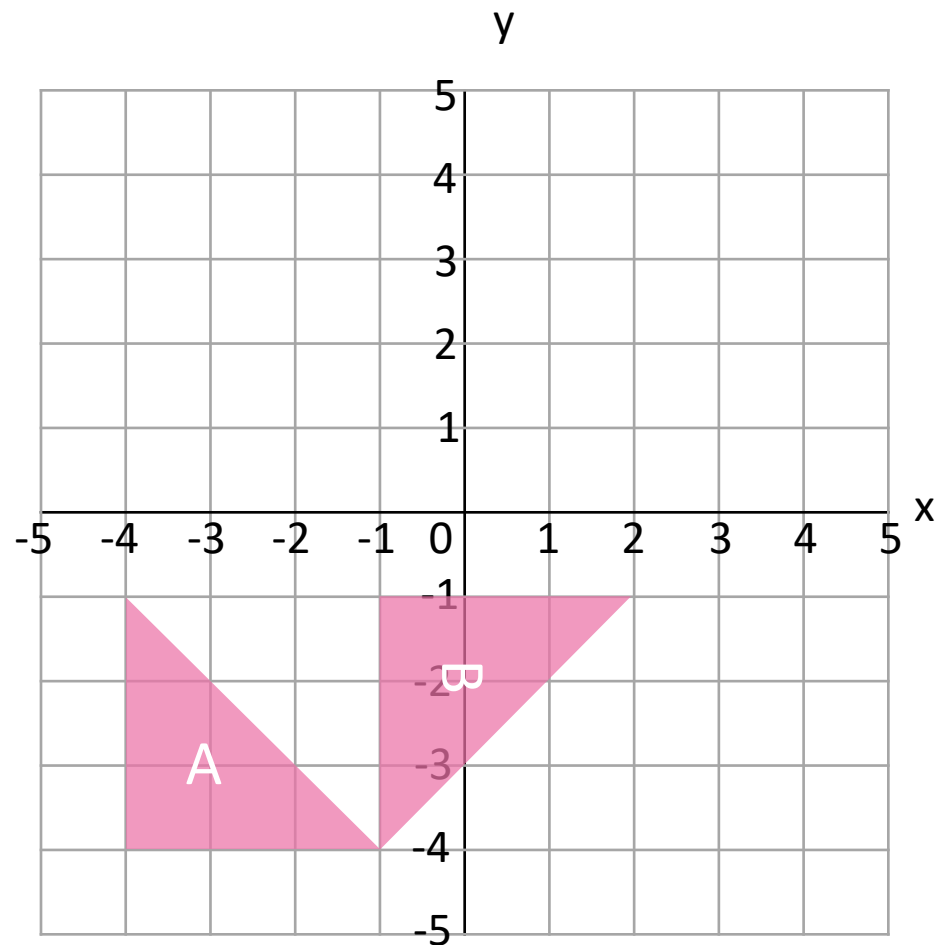
A translation is when a shape moves from one position to another without being rotated or flipped.

On this grid, rectangle A has been translated to position B.



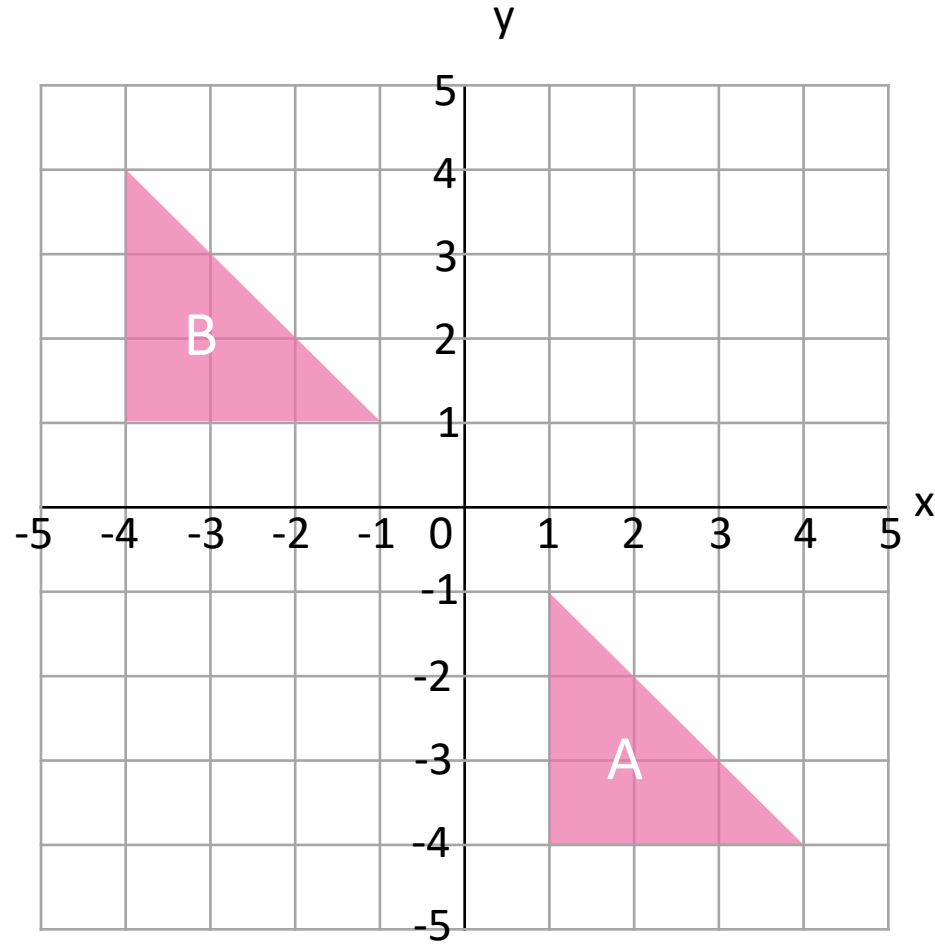
# What Is a Translation?

This is **not a translation** because the shape has been rotated.



# Translating Shapes

Is this a translation?

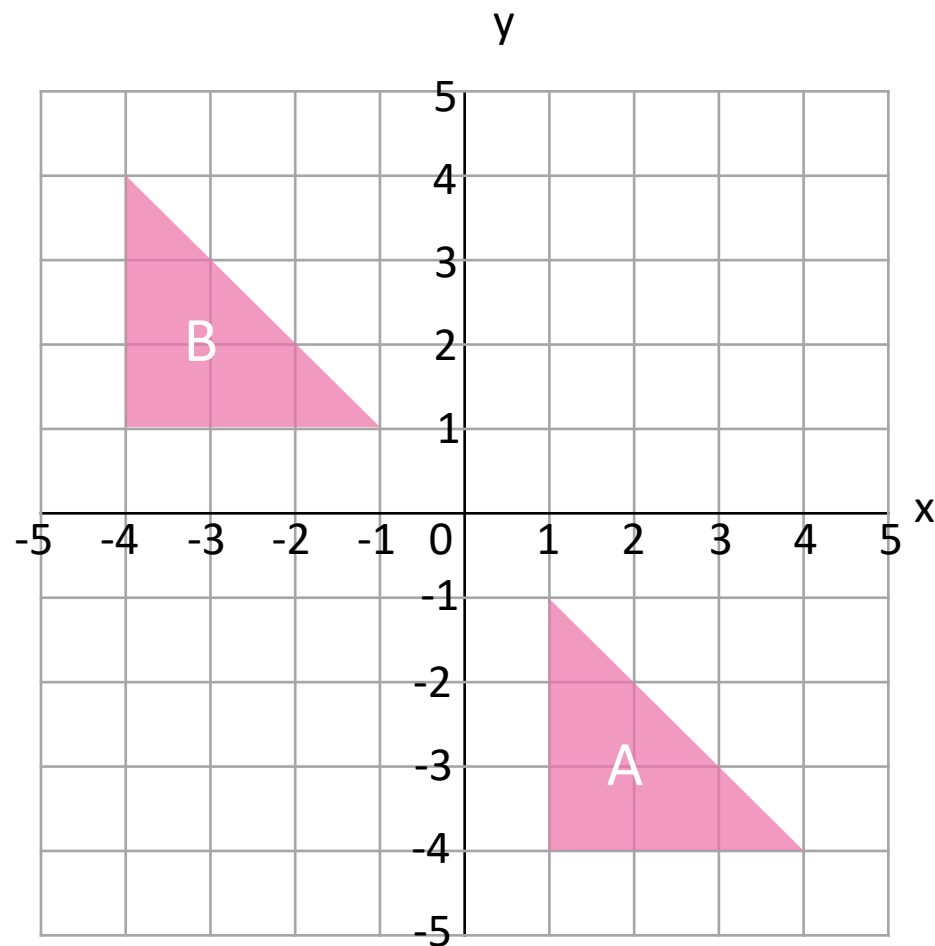


# Translating Shapes

Is this a translation?

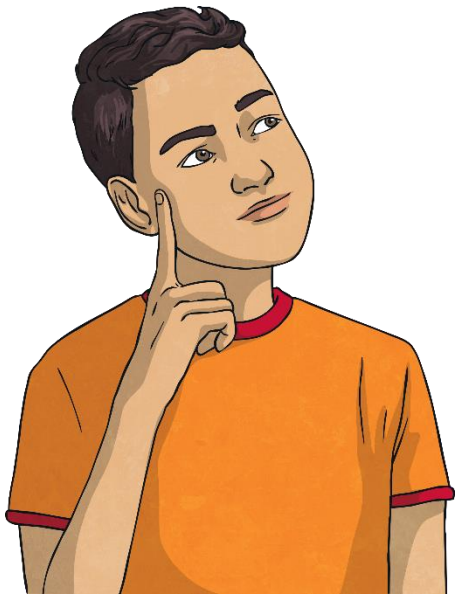
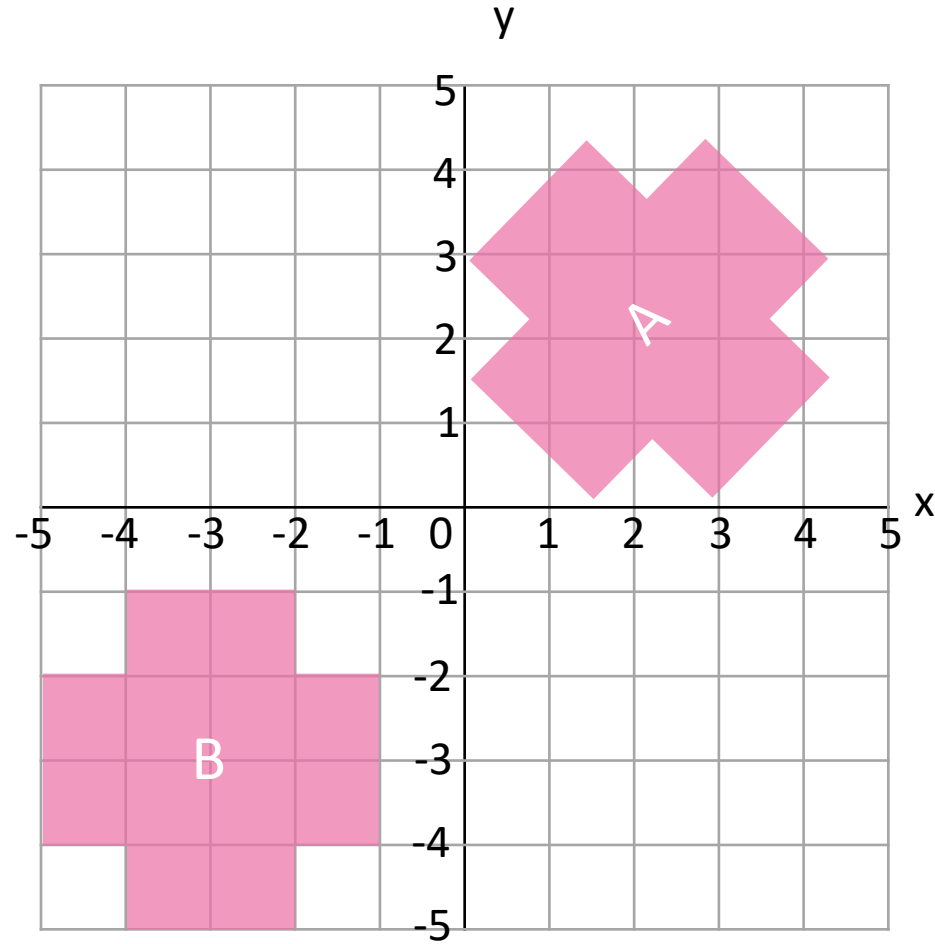
Yes.

This is a translation.



# Translating Shapes

Is this a translation?



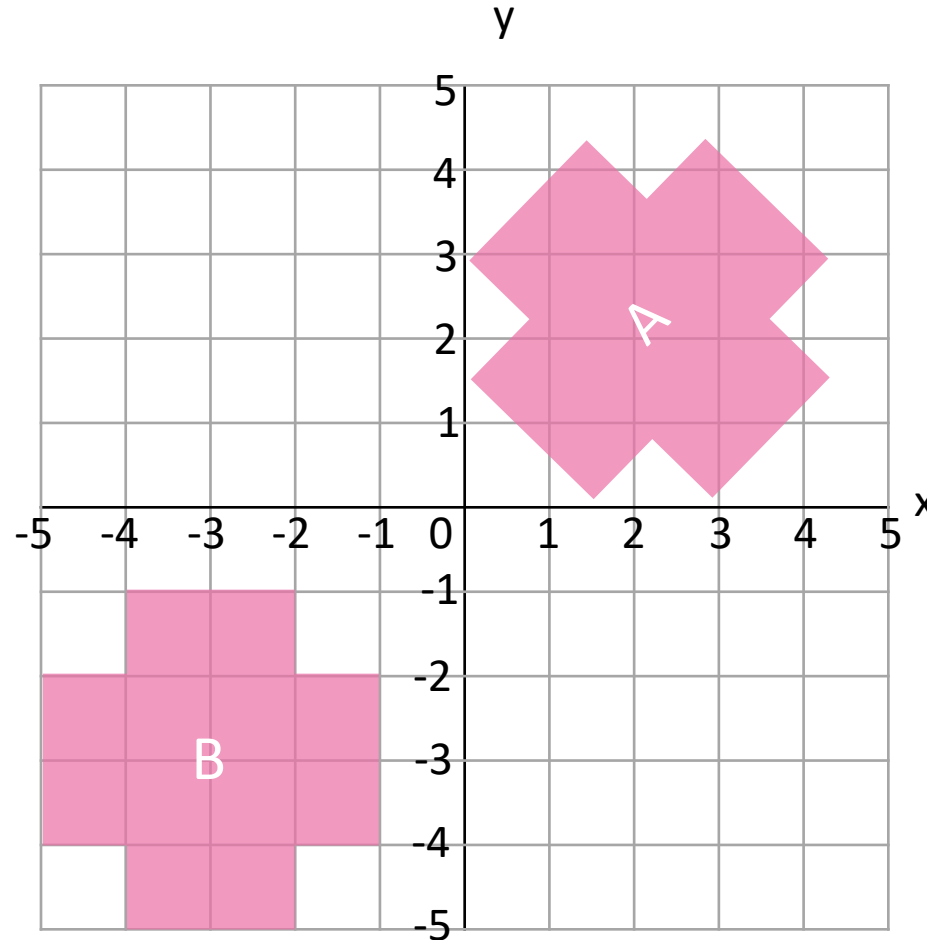
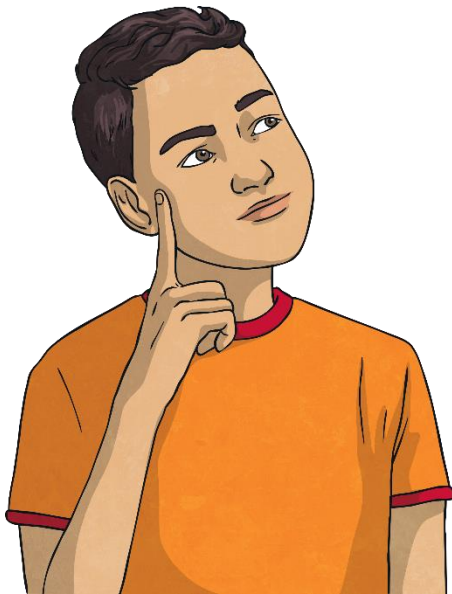


# Translating Shapes

Is this a translation?

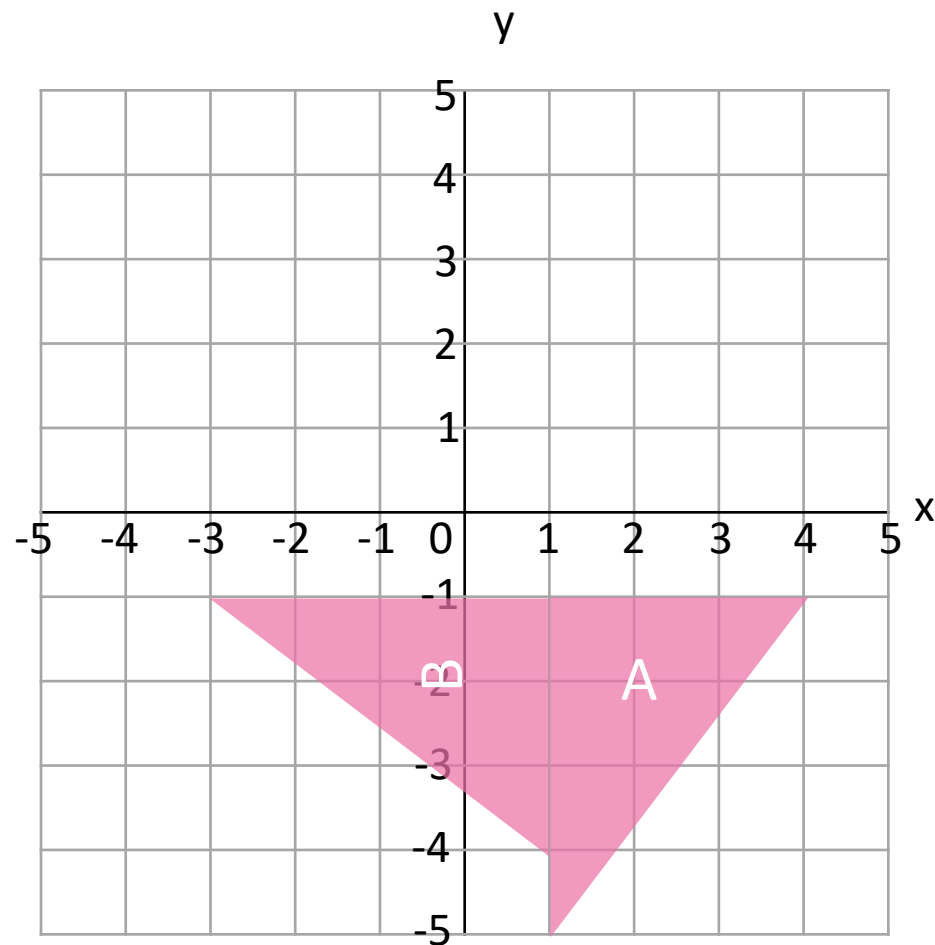
**No.**

This is not a translation  
because the shape  
has been translated  
and rotated.



# Translating Shapes

Is this a translation?

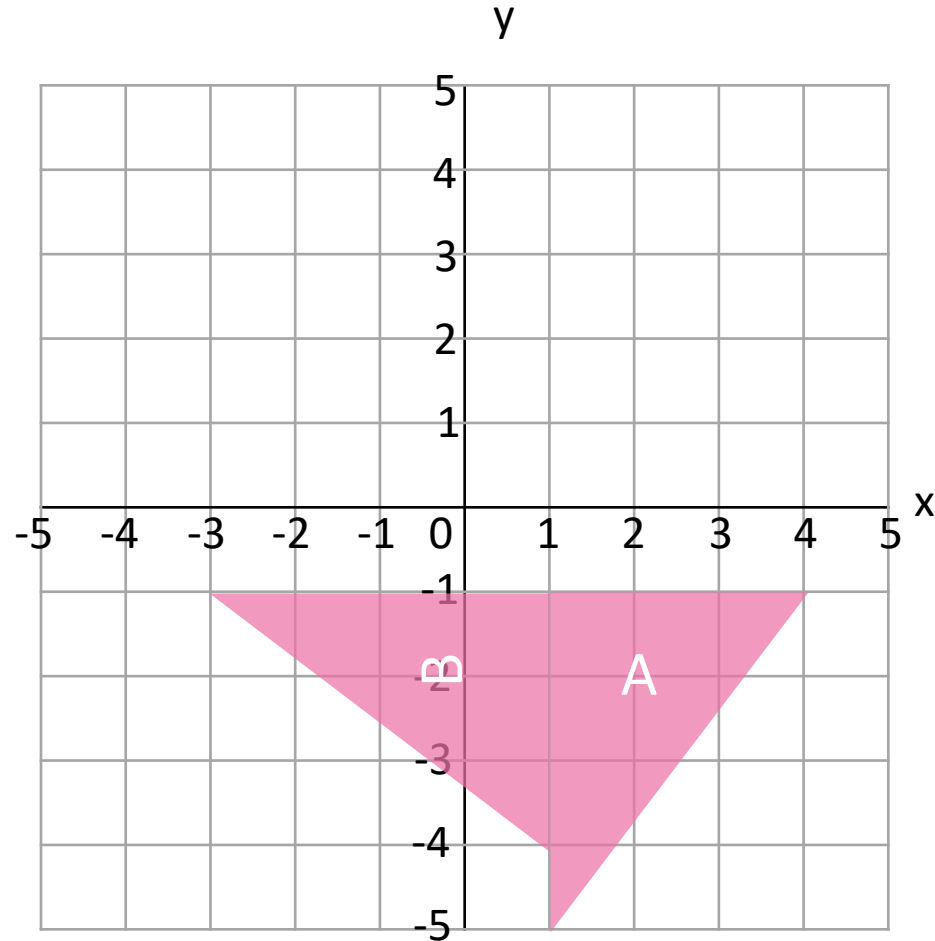


# Translating Shapes

Is this a translation?

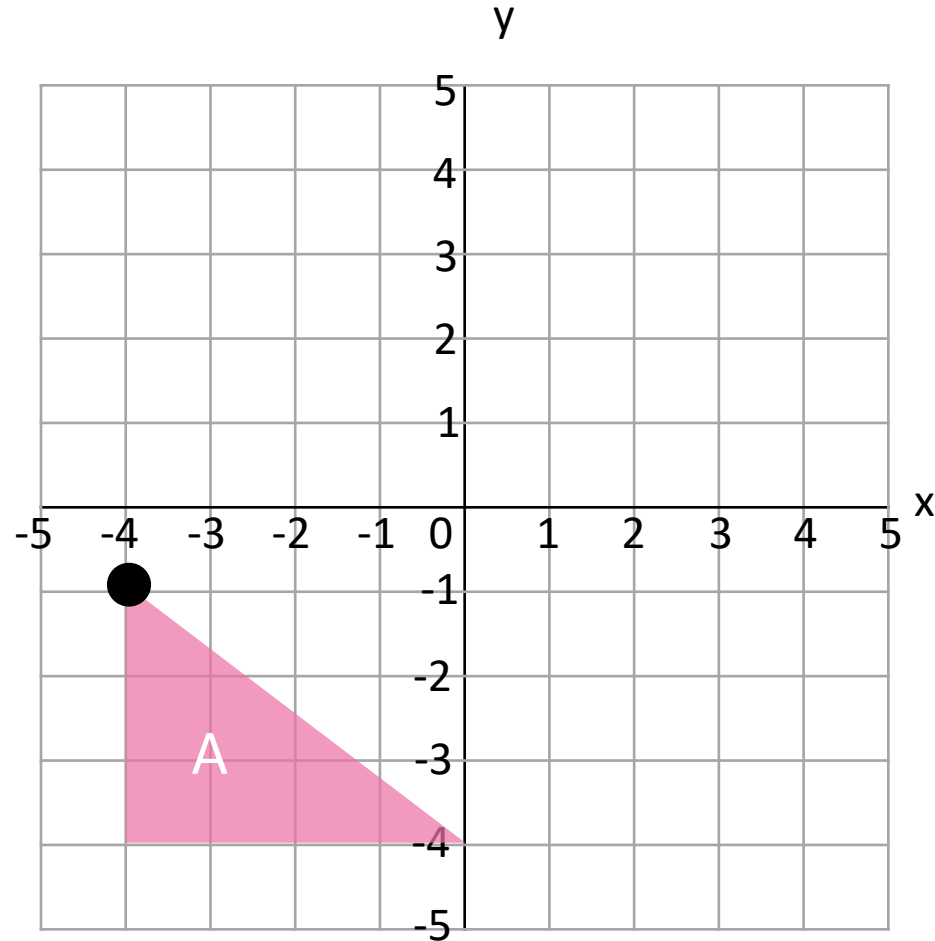
**No.**

This is not a translation  
because the shape  
has been rotated.



# How Do We Describe a Translation?

To describe a translation, you have to say how many squares it has moved to the left or right, and how many squares it has moved up or down.

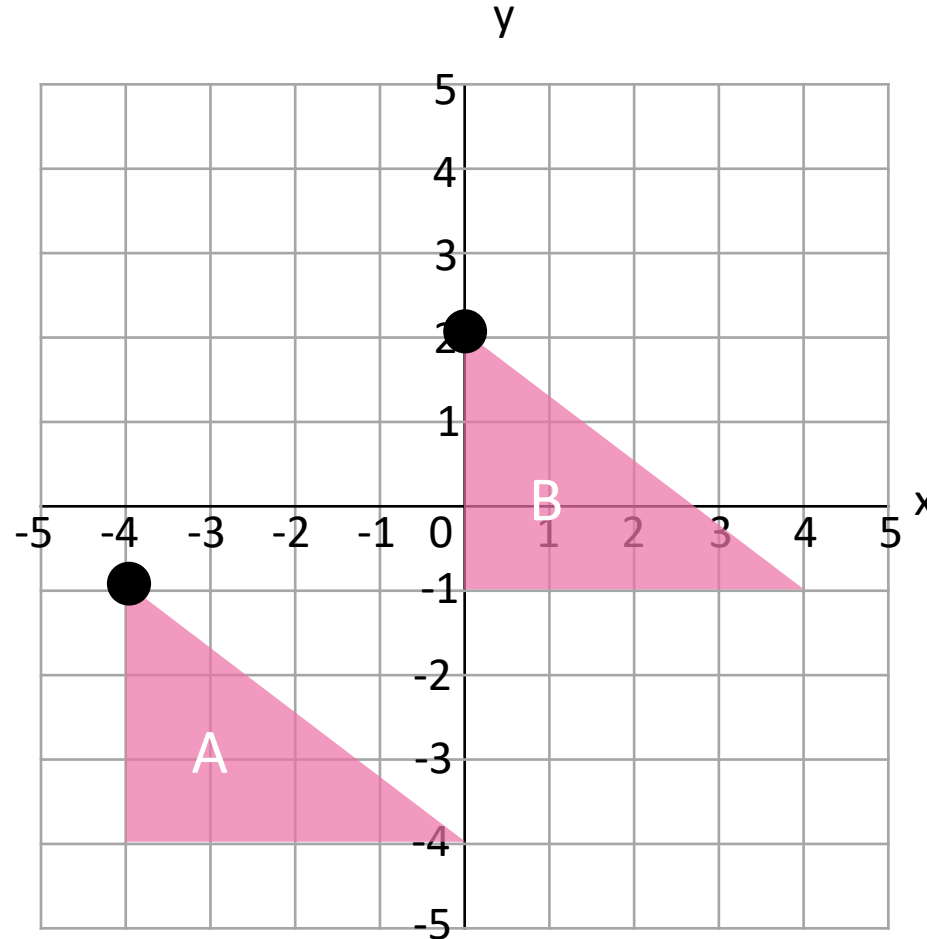


# How Do We Describe a Translation?

To describe a translation, you have to say how many squares it has moved to the left or right, and how many squares it has moved up or down.

The shape has been translated 4 squares to the right. Then **3 squares up**.

The coordinates of the black point on shape A are  $(-4, -1)$ . What are the coordinates of the black point shown on shape B?



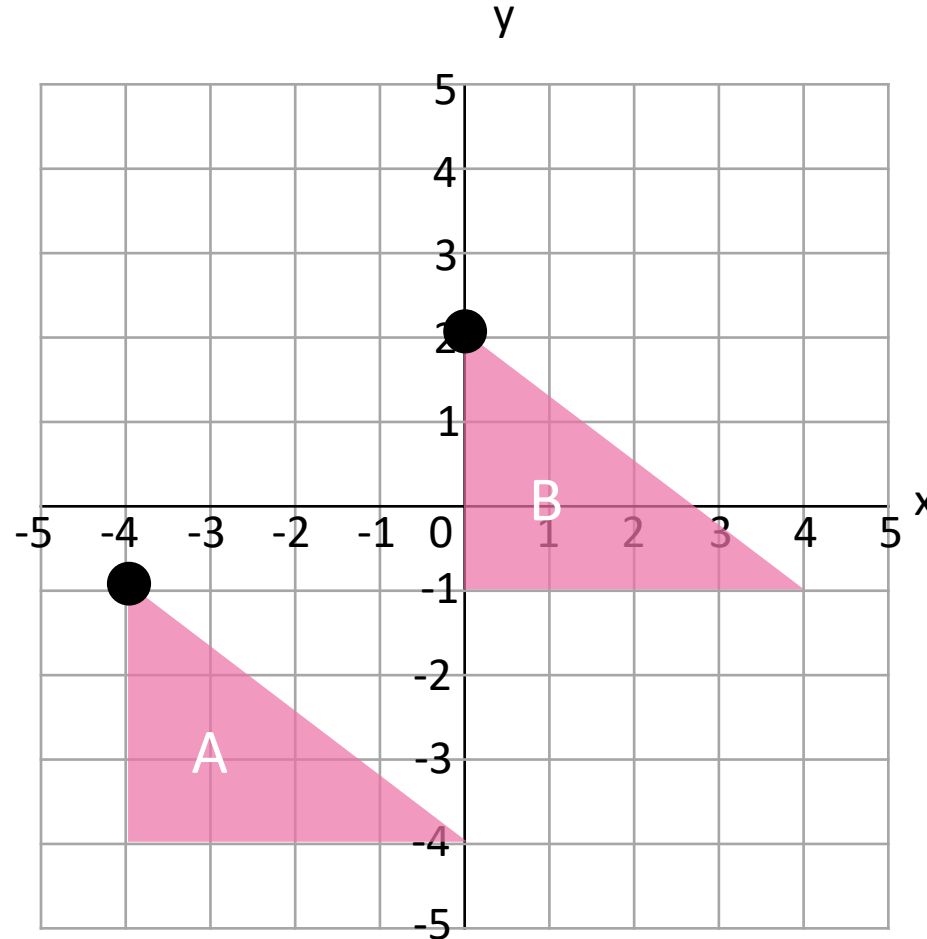
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The shape has been translated 4 squares to the right. Then **3 squares up**.

The coordinates of the black point on shape A are  $(-4, -1)$ . What are the coordinates of the black point shown on shape B?

$(0, 2)$

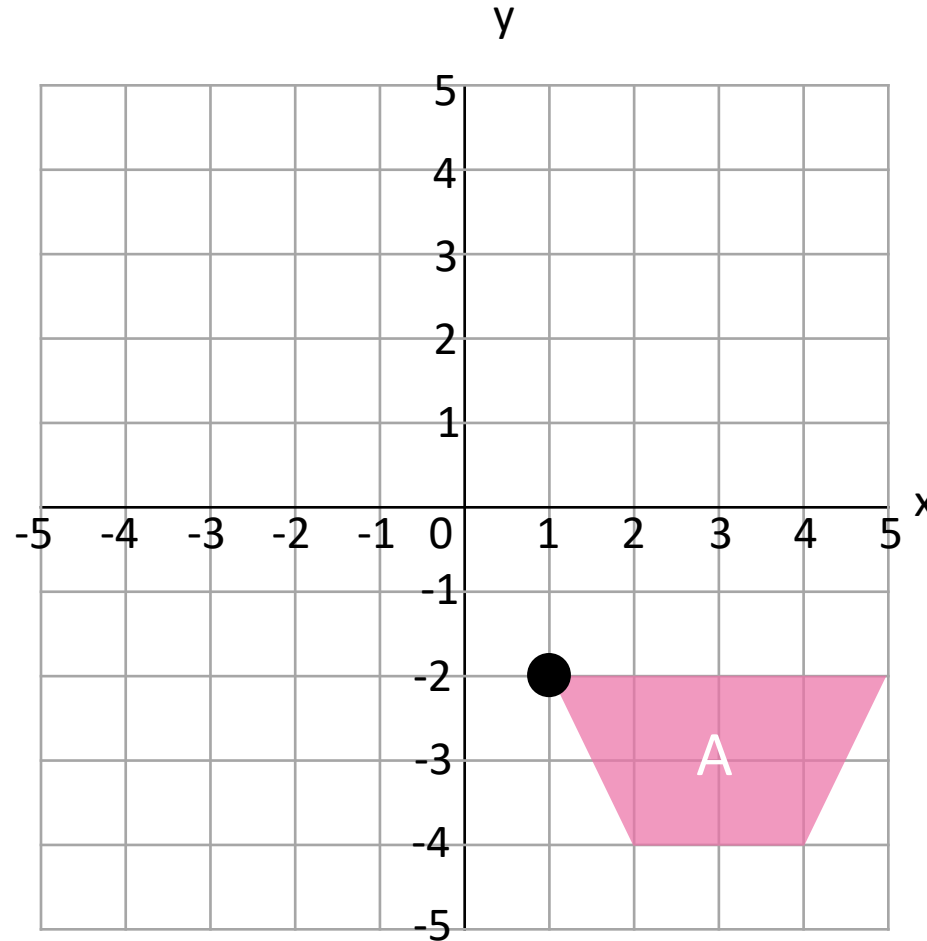


**HINT** - Always remember the order of co-ordinates. We always find the horizontal co-ordinate first, then we find the vertical co-ordinate.

# How Do We Describe a Translation?

The shape has been translated  
4 squares to  
the left and **5 squares up**.

The coordinates of the black  
point on shape A are (1,-2).  
What are the coordinates of  
the black point shown on  
shape B?

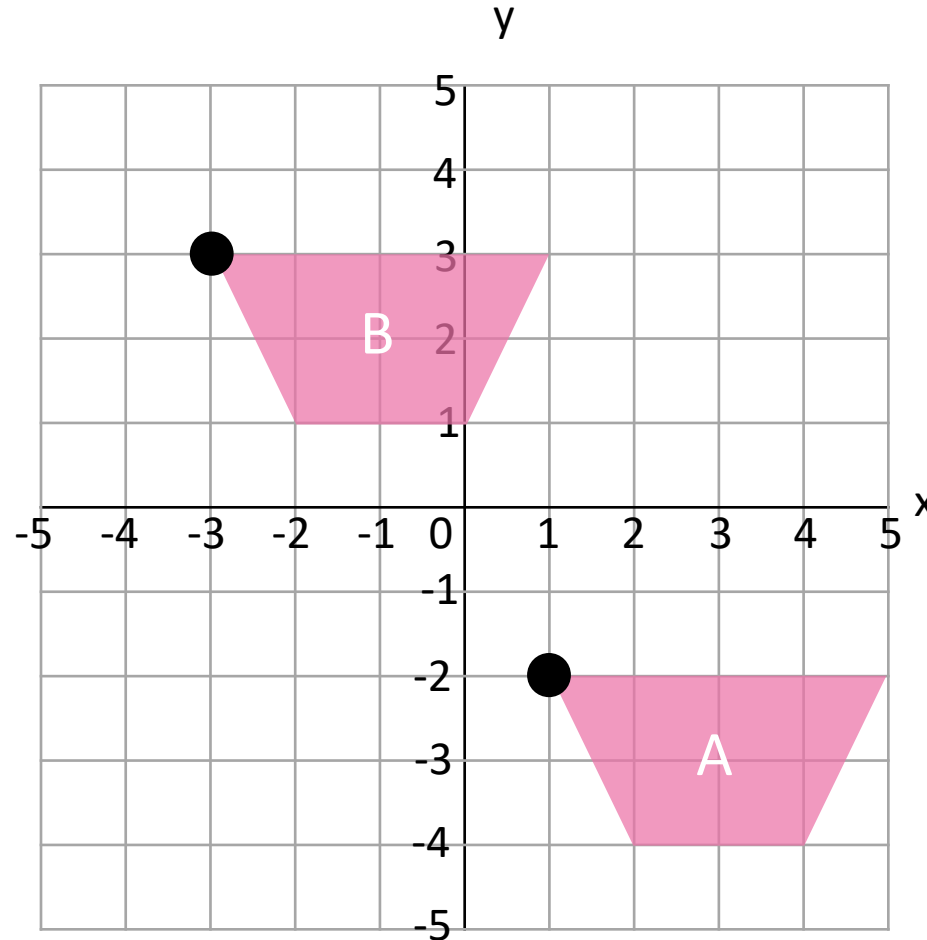


# How Do We Describe a Translation?

The shape has been translated  
4 squares to  
the left and **5 squares up**.

The coordinates of the black  
point on shape A are (1,-2).  
What are the coordinates of  
the black point shown on  
shape B?

**$(-3, 3)$**



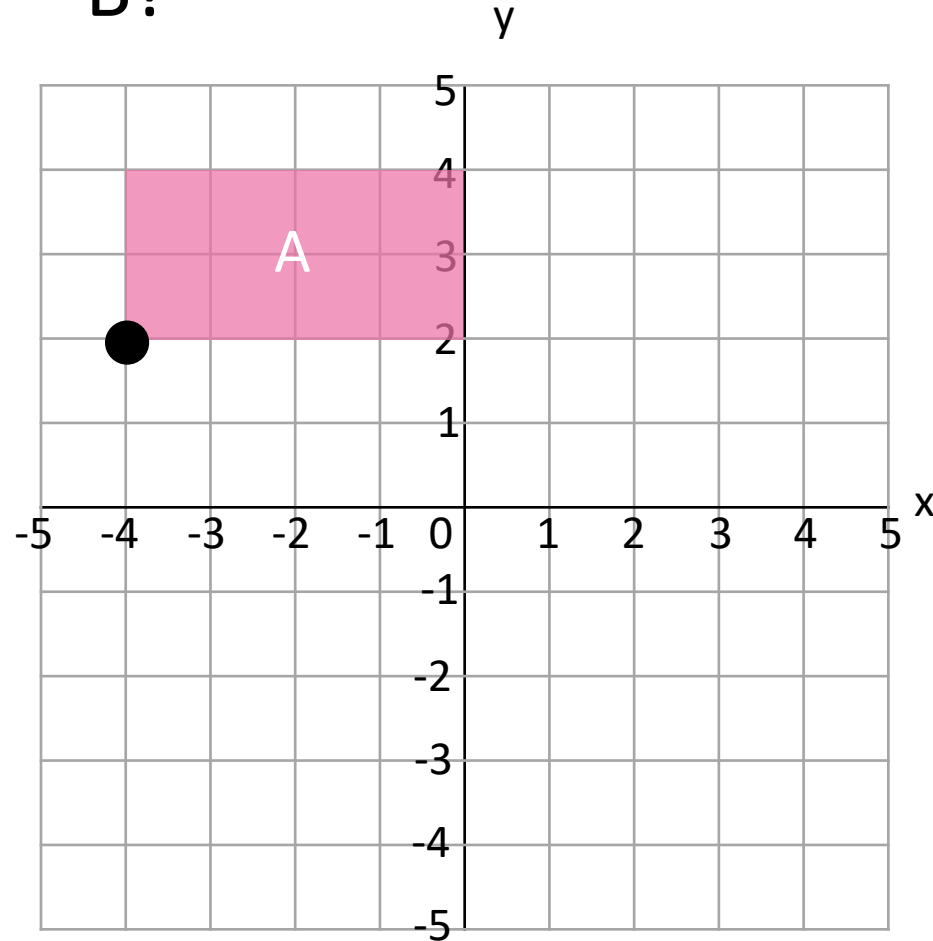


# How Has This Shape Been Translated From A to B?

The shape has been translated 3 squares to the right and **4 squares down**.

Can you work out the coordinates of the black point on shape A and shape B?

Can you work out all the coordinates of shape B?



# How Has This Shape Been Translated From A to B?

The shape has been translated 3 squares to the right and **4 squares down**.

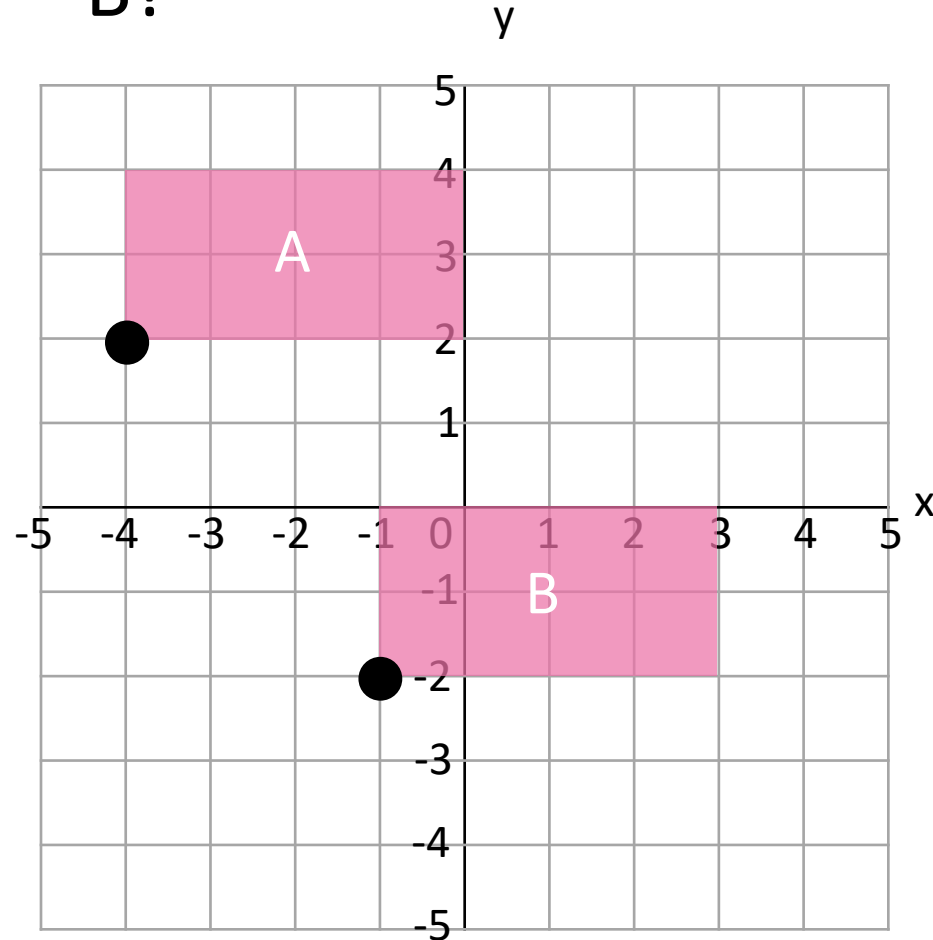
Can you work out the coordinates of the black point on shape A and shape B?

$(-4, 2)$   $(-1, -2)$

Can you work out all the coordinates of shape B?

$(-1, -2)$   $(-1, 0)$   $(3, 0)$   $(3, -2)$

**HINT** – Remember the co-ordinates can be in any order, just make sure you've got them all!



# Tasks

Complete –

- Worksheet.

If you have any misunderstandings then please head to Education City or email the school on –

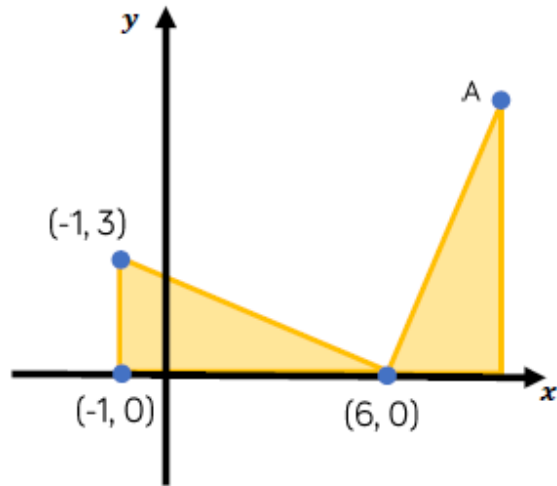
[learning@wembleyprimary.brent.sch.uk](mailto:learning@wembleyprimary.brent.sch.uk)

# Worksheet

The diagram shows two identical triangles.

The coordinates of three points are shown.

Find the coordinates of point A.

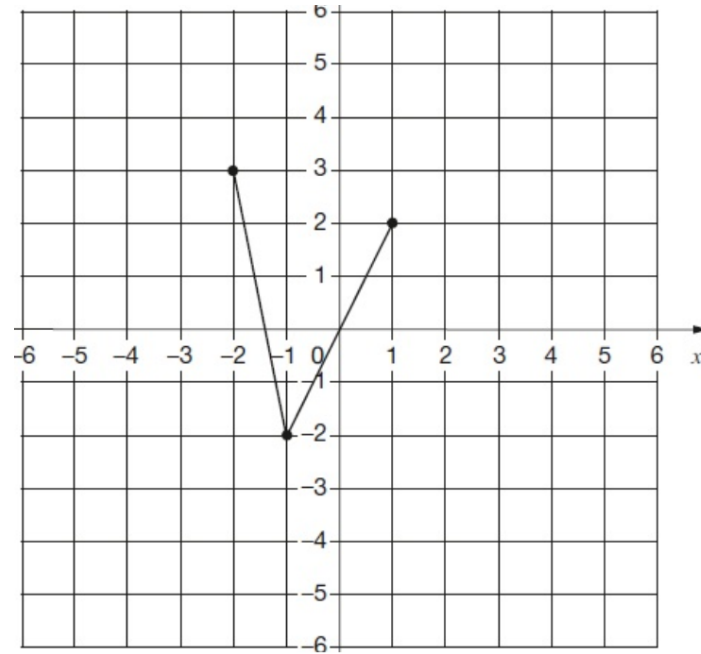


Here is a shape on a grid.

The shape is translated so that point A moves to (7, 8).

Draw the shape in its new position.

Use a ruler.



On the grid there are three points joined by two lines.

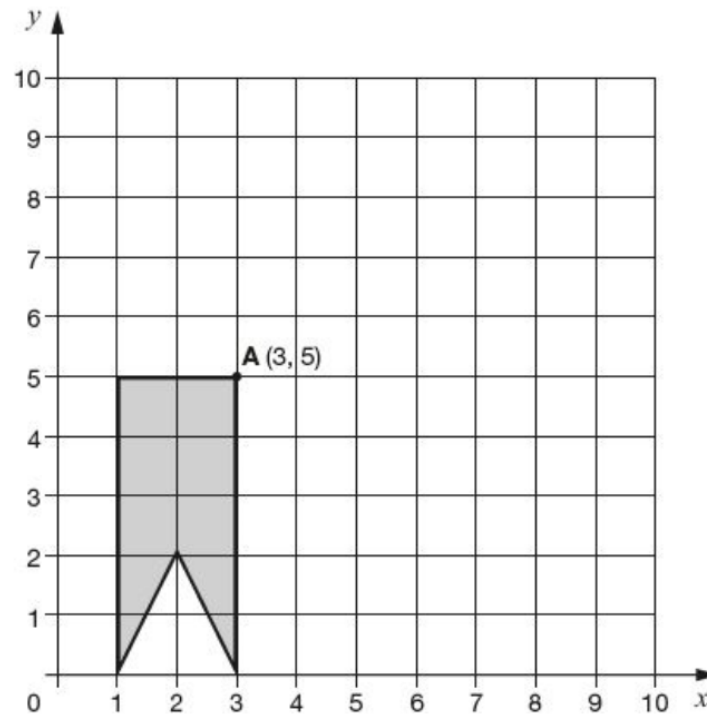
Lara plots **another** point on the grid at  $(-1, 2)$ .

She joins the points to make a quadrilateral.

Complete Lara's quadrilateral on the grid.  
Use a ruler.

Then Lara translates the quadrilateral **4 squares to the right**.

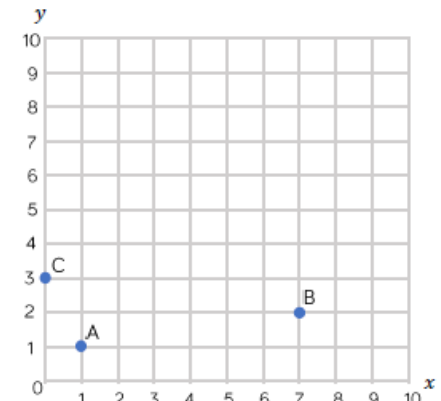
Draw the quadrilateral in its new position on the grid.



Mo has written the coordinates of points A, B and C.

A (1, 1)    B (2, 7)    C (3, 0)

Mark Mo's work and correct his mistakes.

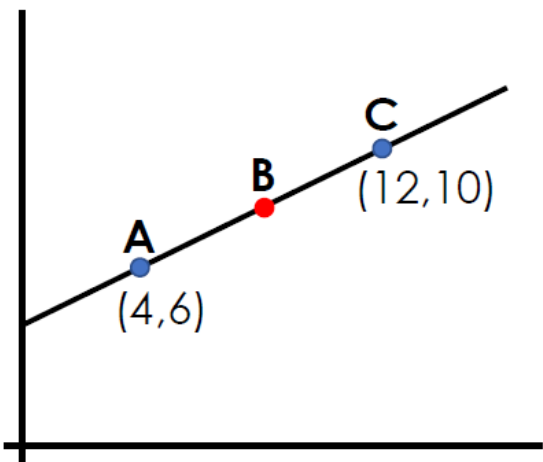


Explain why Mo could not make the same mistake for point A as he made for points B and C.

# Extra Challenge

## Explain the mistake

Point B is half-way between points A and C.



Calculate the coordinates of Point B.

(6,5)



Explain the mistake

Are these coordinates on the inside, the edge or on the outside of the rectangle?

	Inside	Edge	Outside
(6,10)	✓		
(9,14)			
(14,9)			
(13,5)			

Tuesday 2<sup>nd</sup> June 2020

L.O. – To understand translation of a shape.

# Problems of the day.

- 1** A school makes 50 sandwiches each day.

The table shows the number of sandwiches sold each day last week.

Day	Number of sandwiches sold
Monday	20
Tuesday	32
Wednesday	47
Thursday	18
Friday	39

How many sandwiches in total were not sold last week?

- 2** Tony earns £600 a week.



I spend  $\frac{3}{10}$  of what I earn on rent for my house.

He spends 20% of the amount remaining on a new coat.

How much money does the coat cost?

# Problems of the day.

- 1** A school makes 50 sandwiches each day.

The table shows the number of sandwiches sold each day last week.

Day	Number of sandwiches sold
Monday	20
Tuesday	32
Wednesday	47
Thursday	18
Friday	39

How many sandwiches in total were not sold last week?

**94 sandwiches were not sold last week.**

- 2** Tony earns £600 a week.



I spend  $\frac{3}{10}$  of what I earn on rent for my house.

He spends 20% of the amount remaining on a new coat.

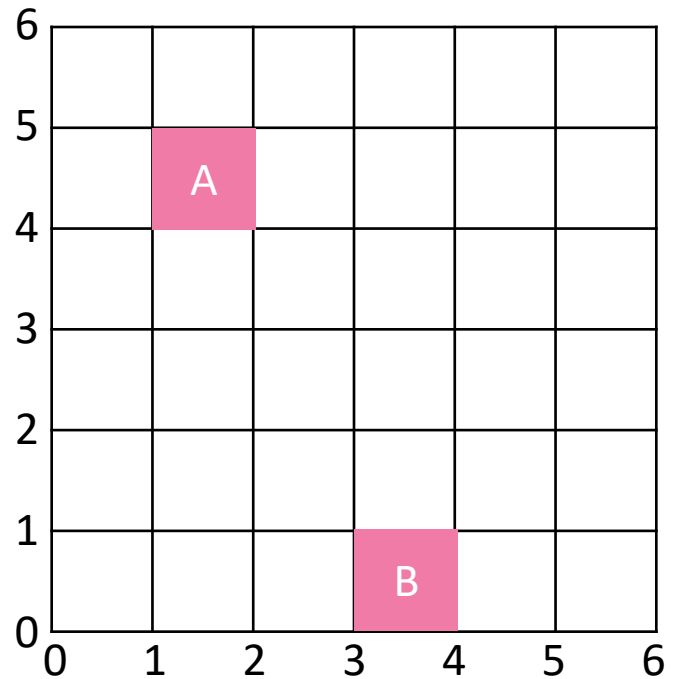
How much money does the coat cost?

**The coat costs £84**



# Translation Quiz

Shape A has been translated to Shape B. Choose the correct translation.



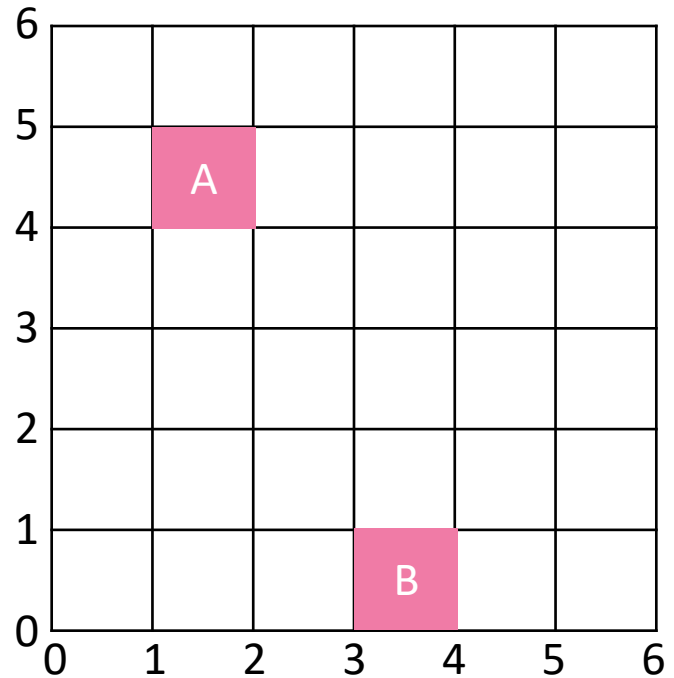
Right 3  
Down 4

Right 2  
Down 4

Right 3  
Down 3

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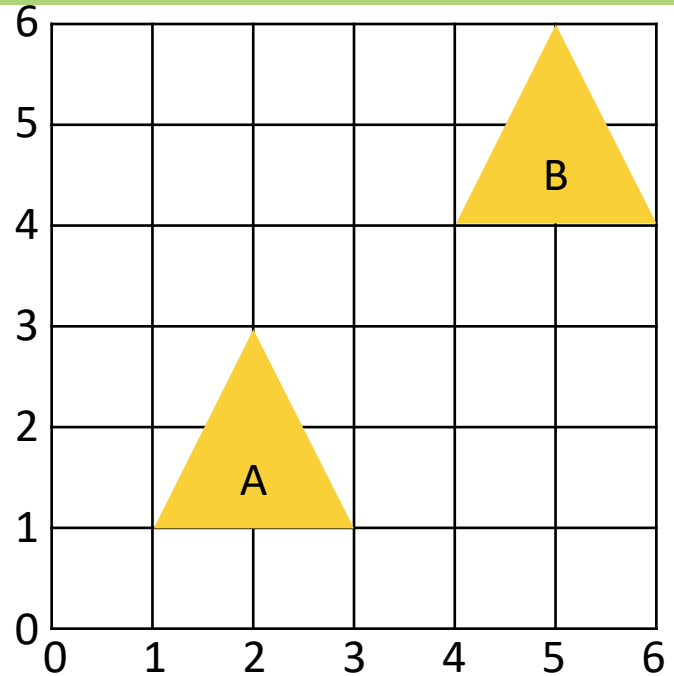
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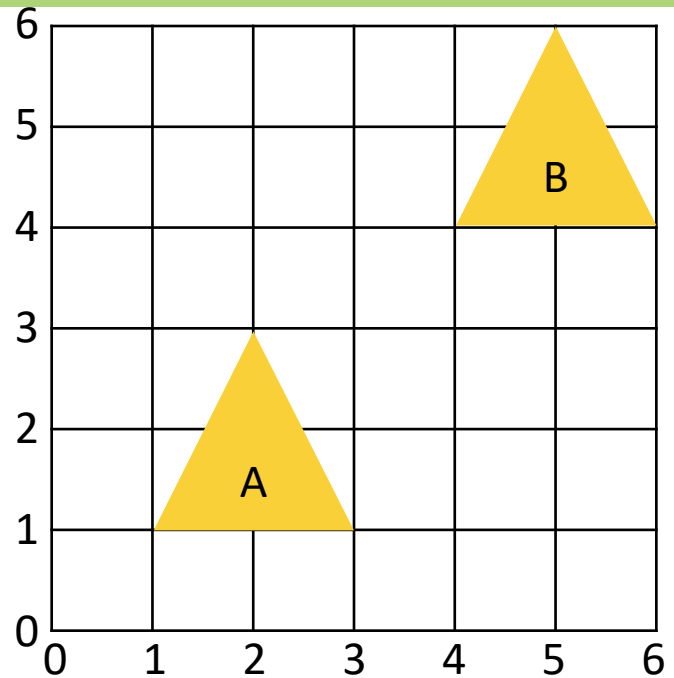
Right 3  
Up 4

Right 2  
Up 3

Right 3  
Up 3

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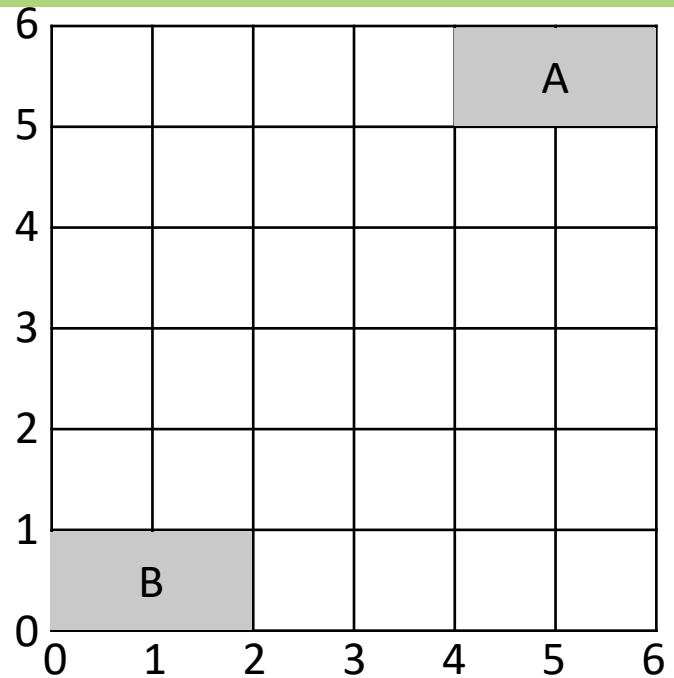
Right 3  
Up 4

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Up 3

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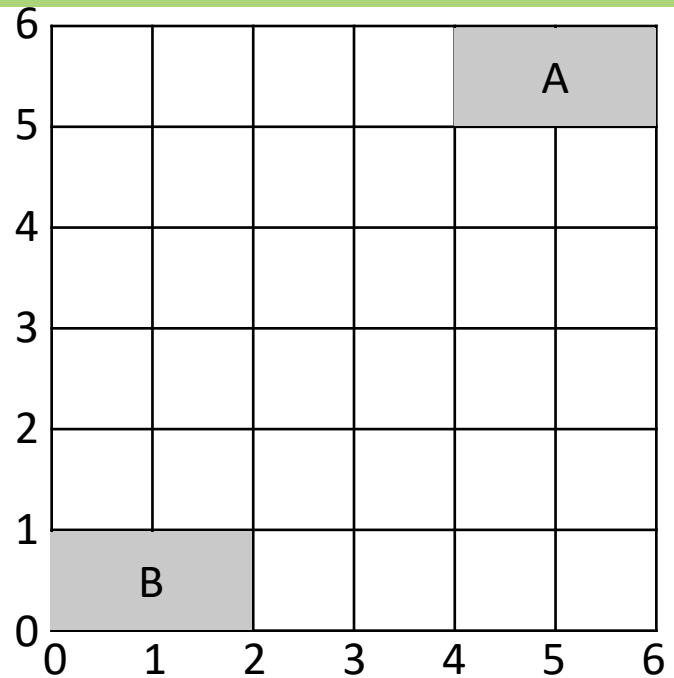
Left 3  
Down 5

Left 4  
Down 5

Left 4  
Down 4

# Translation Quiz

Shape A has been translated to Shape B. Choose the correct translation.



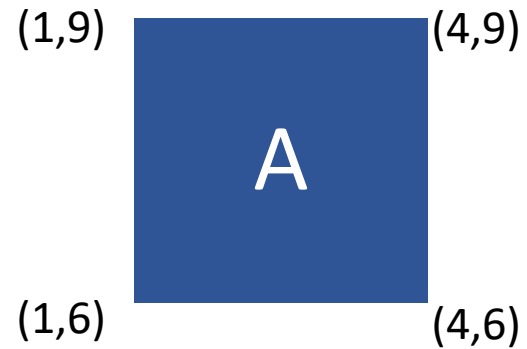
Left 3  
Down 5

Left 4  
Down 5

Left 4  
Down 4

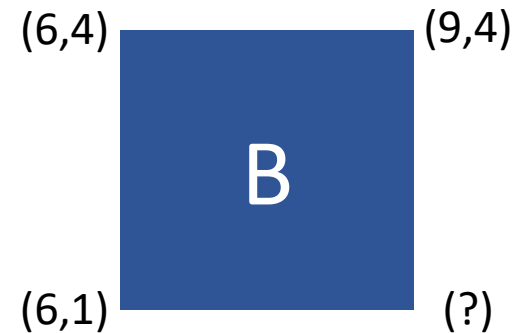
# Translation Without a Grid

Shape A has translated to a new position.

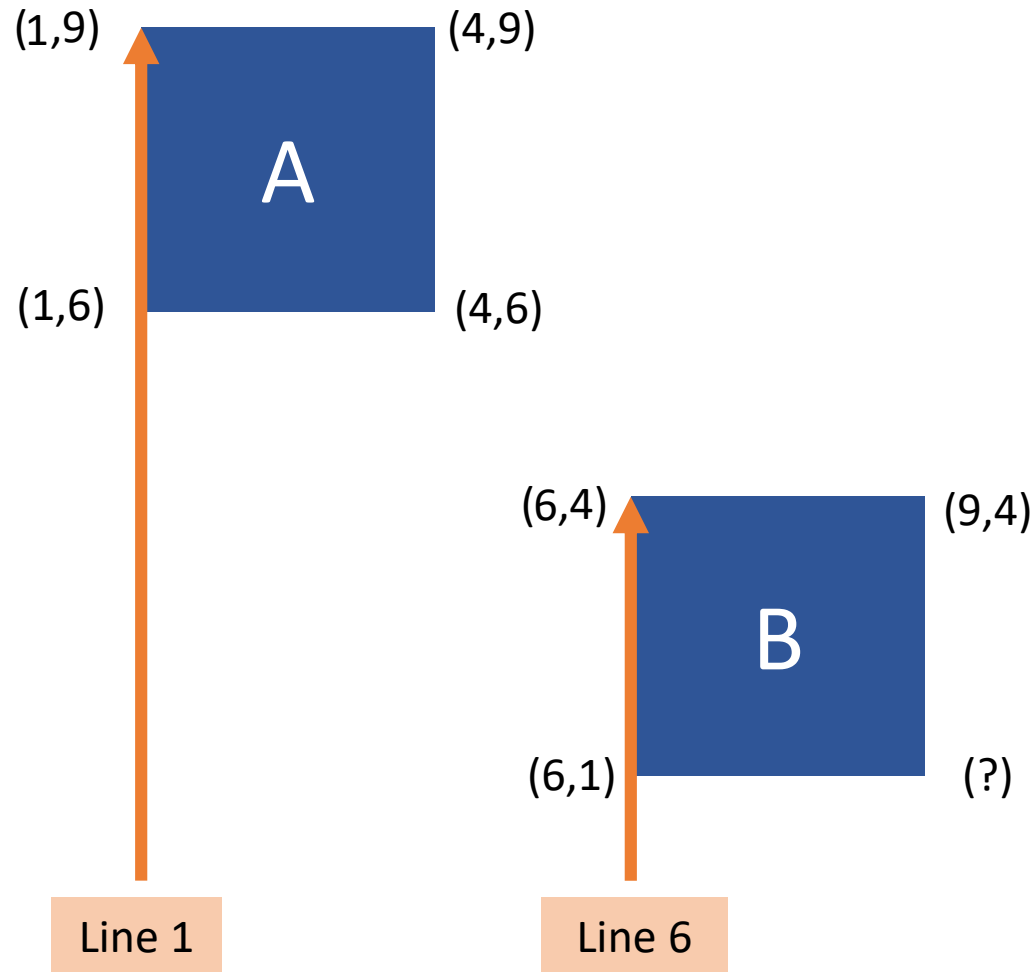


The shape has changed position but we haven't been told the translation directions and there is no grid for reference.

We have been given the coordinate positions of all the corners of the original shape and three of the new shape. Let's use this information to identify the missing coordinate.



# Translation Without a Grid

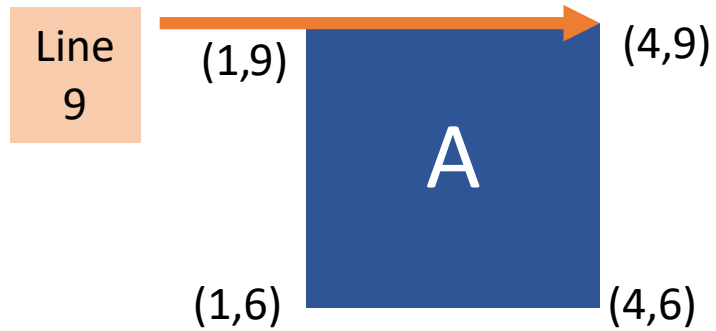


This information  
helps us identify  
that the shape  
has moved

**Right 5.**

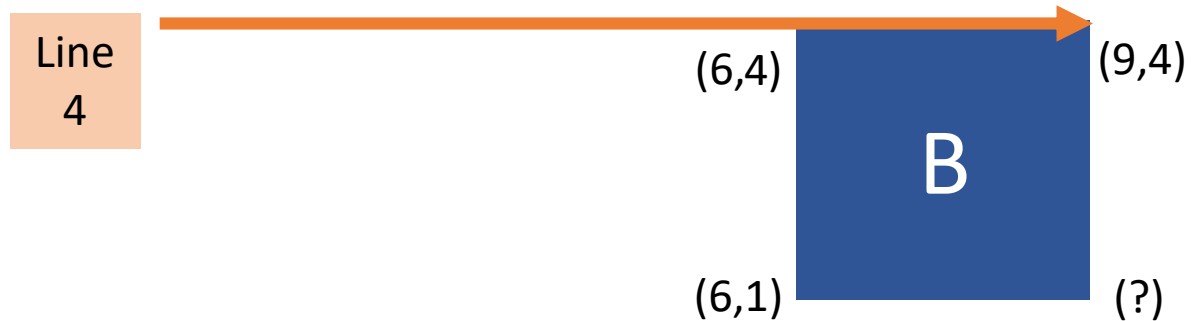


# Translation Without a Grid



This information helps  
us identify that the  
shape has moved

**Down 5.**



# Translation Without a Grid

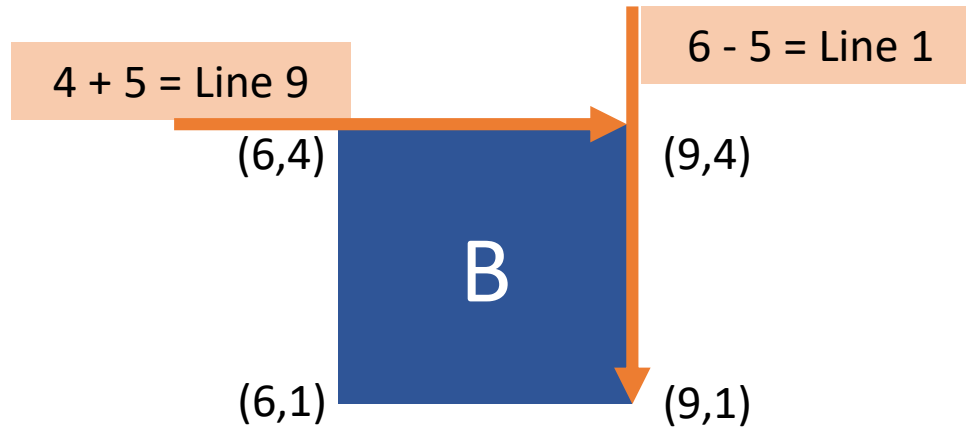


Now we have identified that  
the shape was translated

**Right 5**

**Down 5**

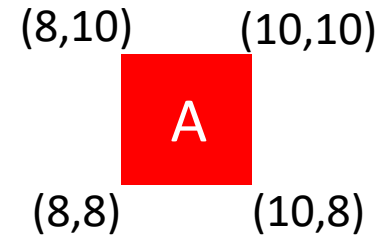
we can use this to identify the  
missing coordinate.



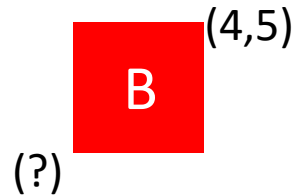
# Mixed Up Translations

Shape A has been translated. Which of the speech bubbles of the children has identified the missing coordinate correctly.

How has the other child got mixed up?



I think the missing coordinate is (2,3).



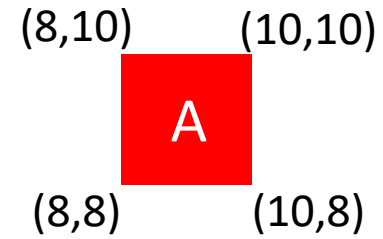
I think the missing coordinate is (1,3).



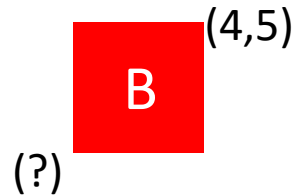
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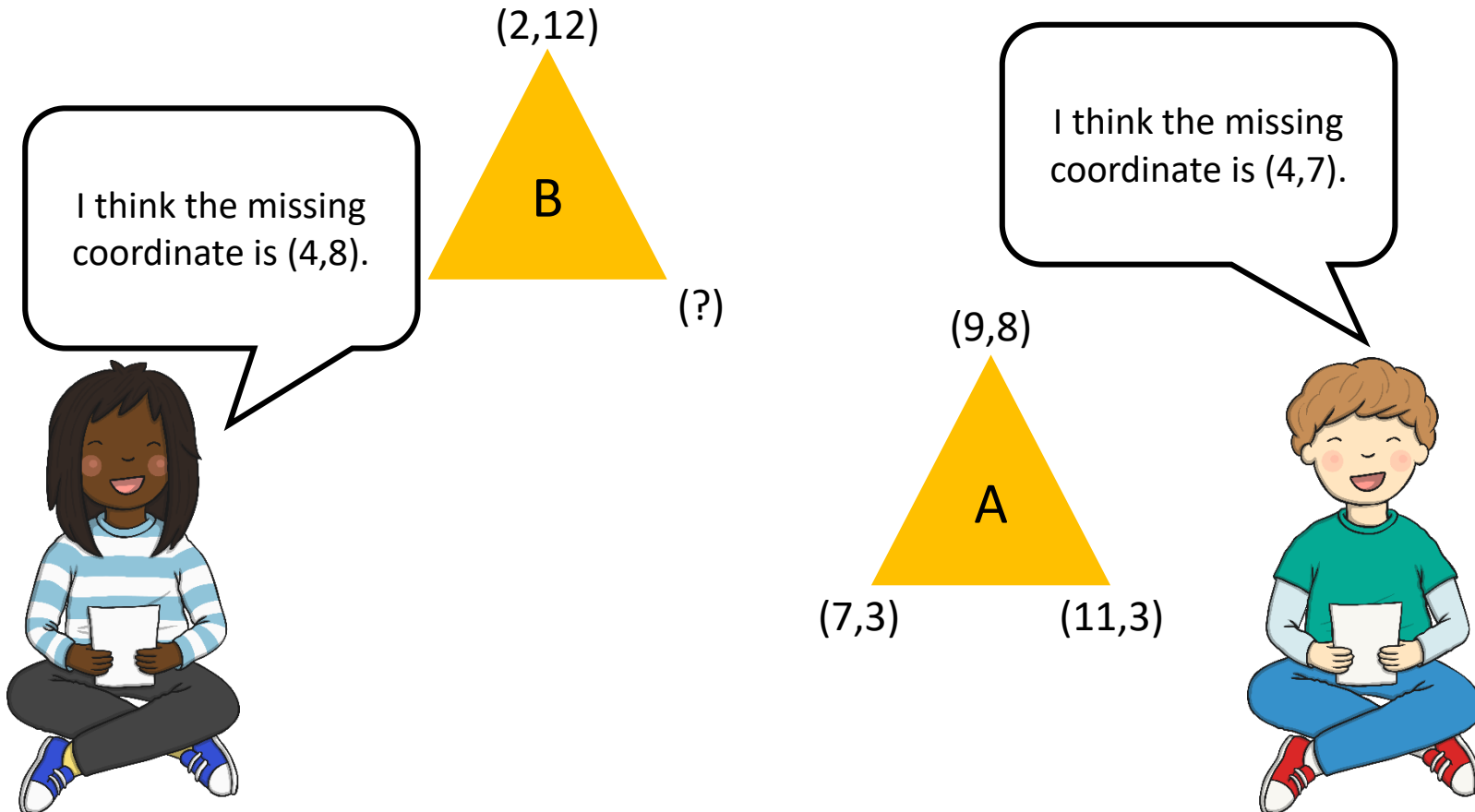


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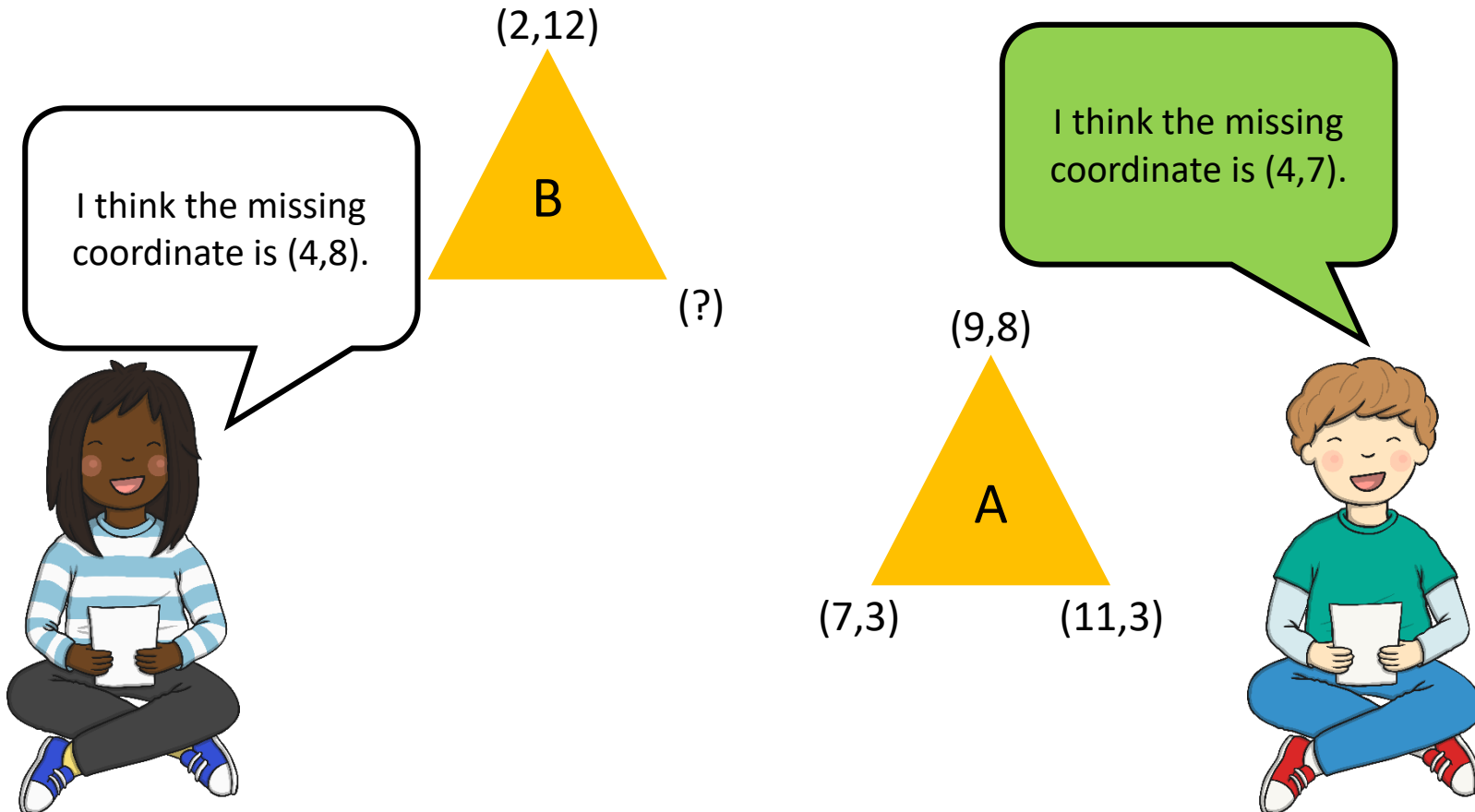
# Mixed Up Translations

Which is the correct speech bubble?



# Mixed Up Translations

Which is the correct speech bubble?



# Tasks

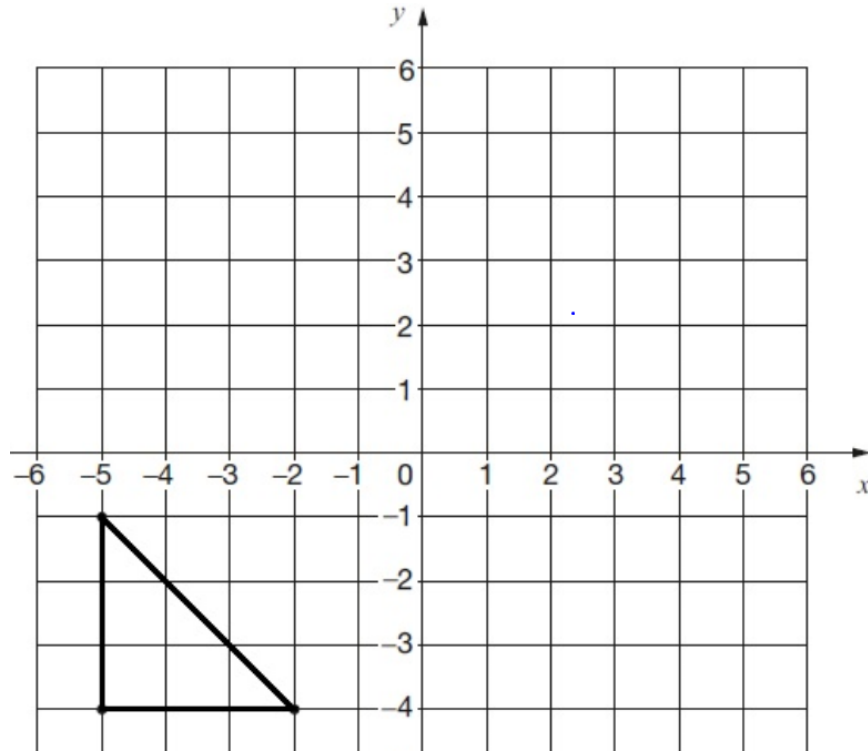
Complete –

- Worksheet.

If you have any misunderstandings then please head to Education City or email the school on –

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# Worksheet



The triangle is translated **7 right** and **5 up**.

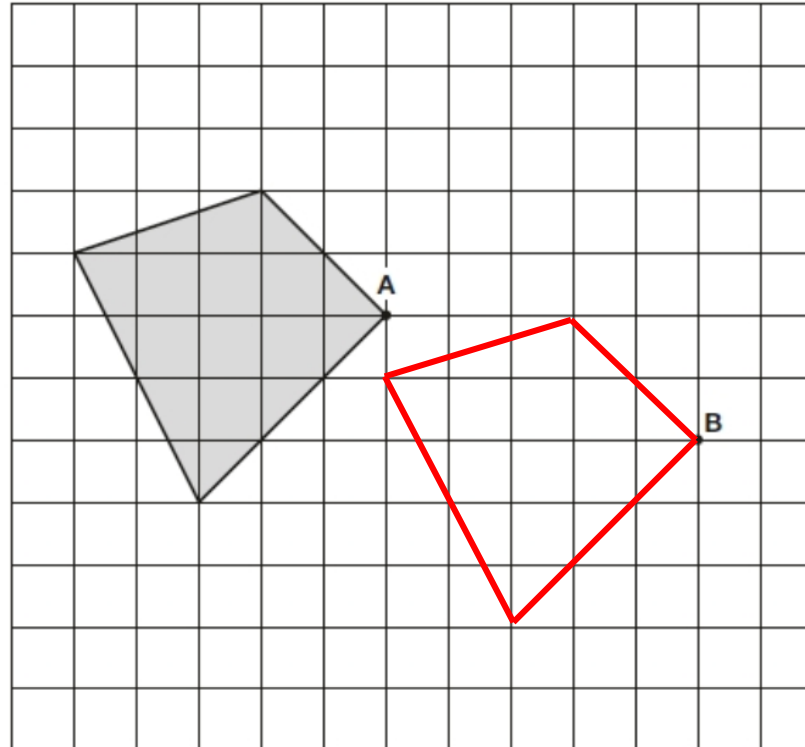
Draw the triangle in its new position.

Here is a shaded shape on a grid.

The shape is translated so that point **A** moves to point **B**.

Draw the shape in its new position.

Use a ruler.

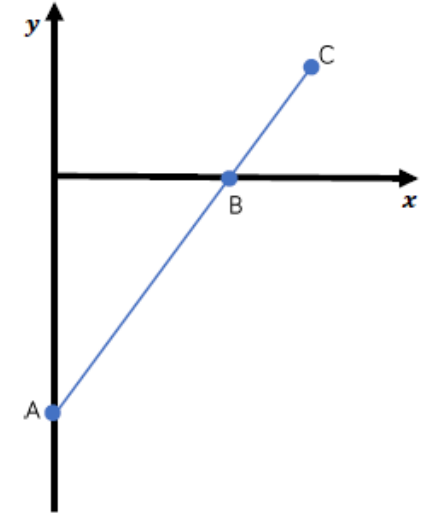


A is the point  $(0, -10)$

B is the point  $(8, 0)$

The distance from A to B is two thirds of the distance from A to C.

Find the coordinates of C.



Eva is drawing a trapezium.

She wants her final shape to look like this:



Eva uses the coordinates  $(2, 4)$ ,  $(4, 5)$ ,  $(1, 6)$  and  $(5, 6)$ .

Will she draw the shape that she wants to?

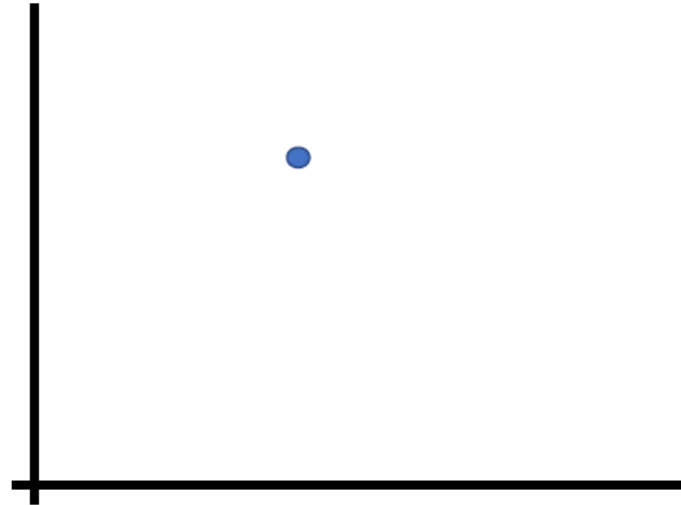
If not, can you correct her coordinates?



# Extra Challenge

## Different ways

*Think of possible coordinates for the blue dot.*

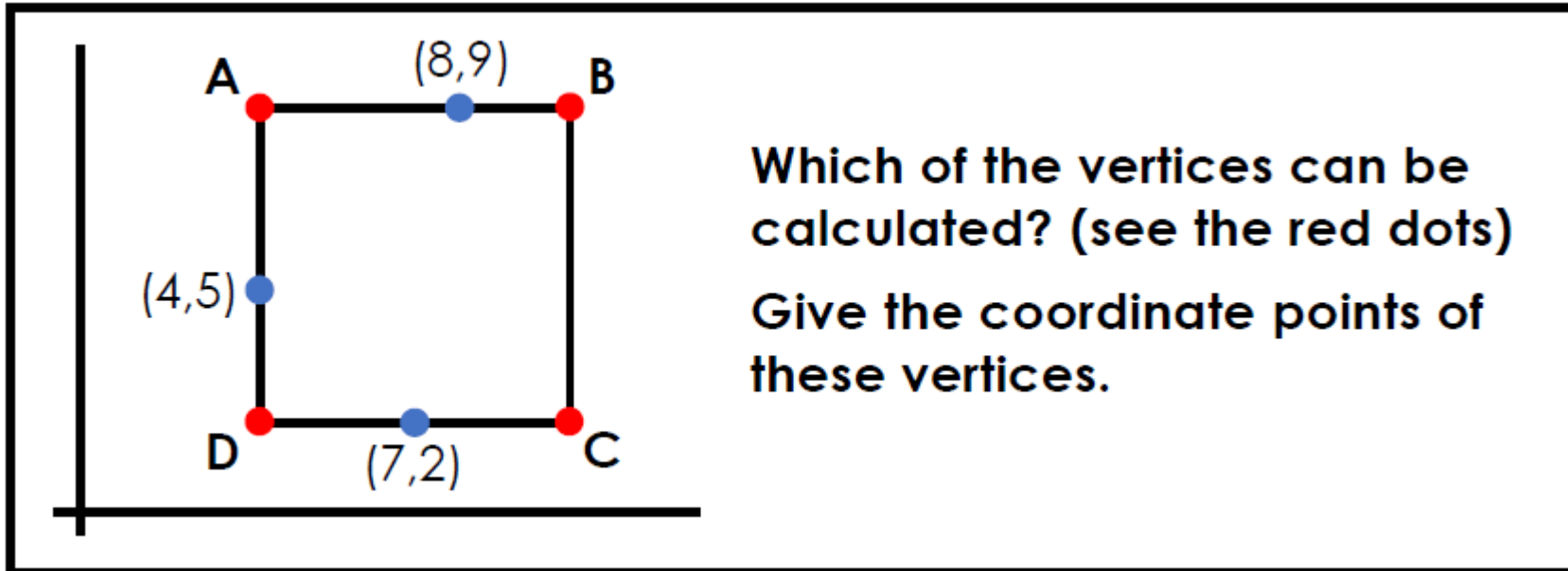


Could the coordinates of the blue dot be:

(5,8)

(20,12)

(100,110)



Which of the vertices can be calculated? (see the red dots)

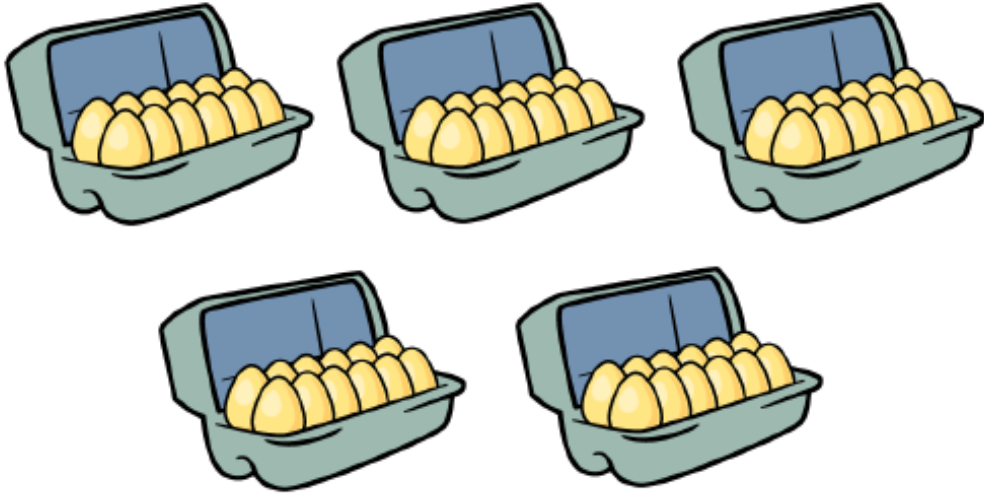
Give the coordinate points of these vertices.

Wednesday 3<sup>rd</sup> June 2020

L.O. – To deepen our knowledge of reflection and translation of shapes.

# Problems of the day.

- 1** Maisie buys 5 boxes of eggs.



Each box contains 12 eggs.

She uses 18 of the eggs.

What fraction of the eggs does she have left?

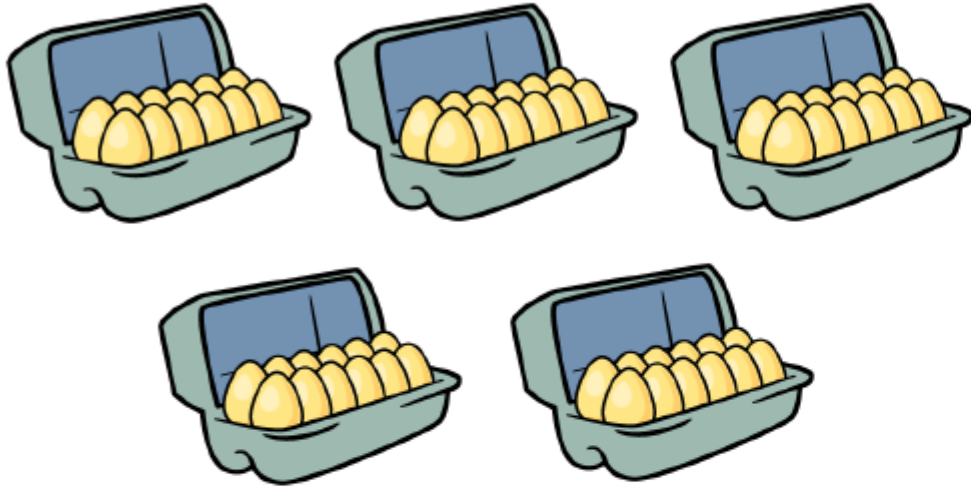
- 2** Max has some bags of apples and some bags of oranges.

- There are twice as many oranges as apples in a bag.
- Max has 4 bags of apples and 3 bags of oranges.
- Max has 70 apples and oranges in total

How many oranges are in one bag?

# Problems of the day.

- 1** Maisie buys 5 boxes of eggs.



Each box contains 12 eggs.

She uses 18 of the eggs.

What fraction of the eggs does she have left?

$$\frac{42}{60} = \frac{7}{10}$$

- 2** Max has some bags of apples and some bags of oranges.

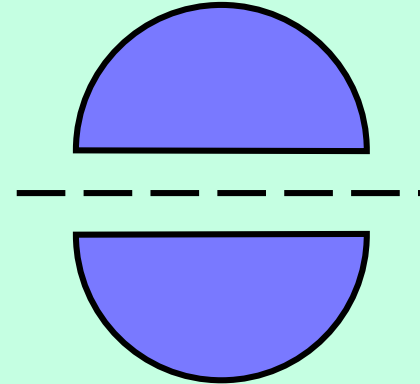
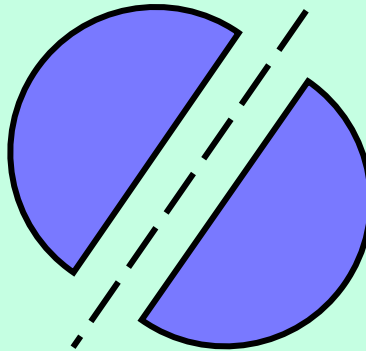
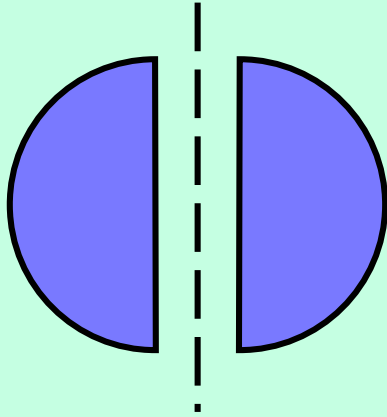
- There are twice as many oranges as apples in a bag.
- Max has 4 bags of apples and 3 bags of oranges.
- Max has 70 apples and oranges in total

How many oranges are in one bag?

There are 14 oranges in one bag.

# Reflective Symmetry

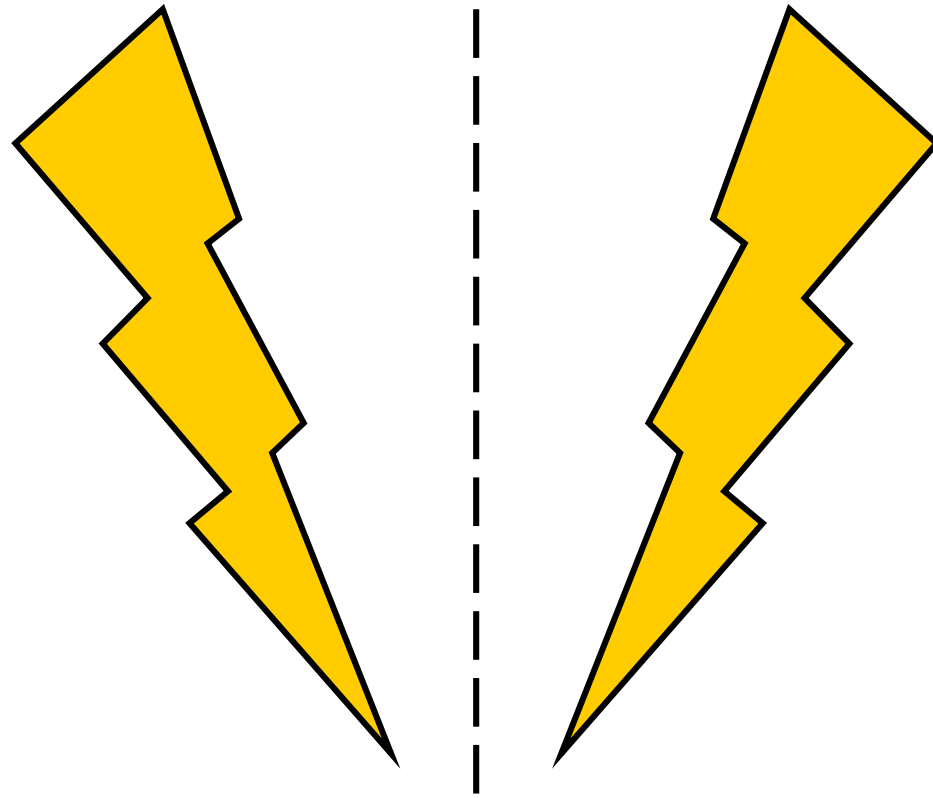
When looking at reflective symmetry, always hold the drawing up vertically, with the line of symmetry vertical.



**It makes it much clearer to see if the shape is a true reflection.**

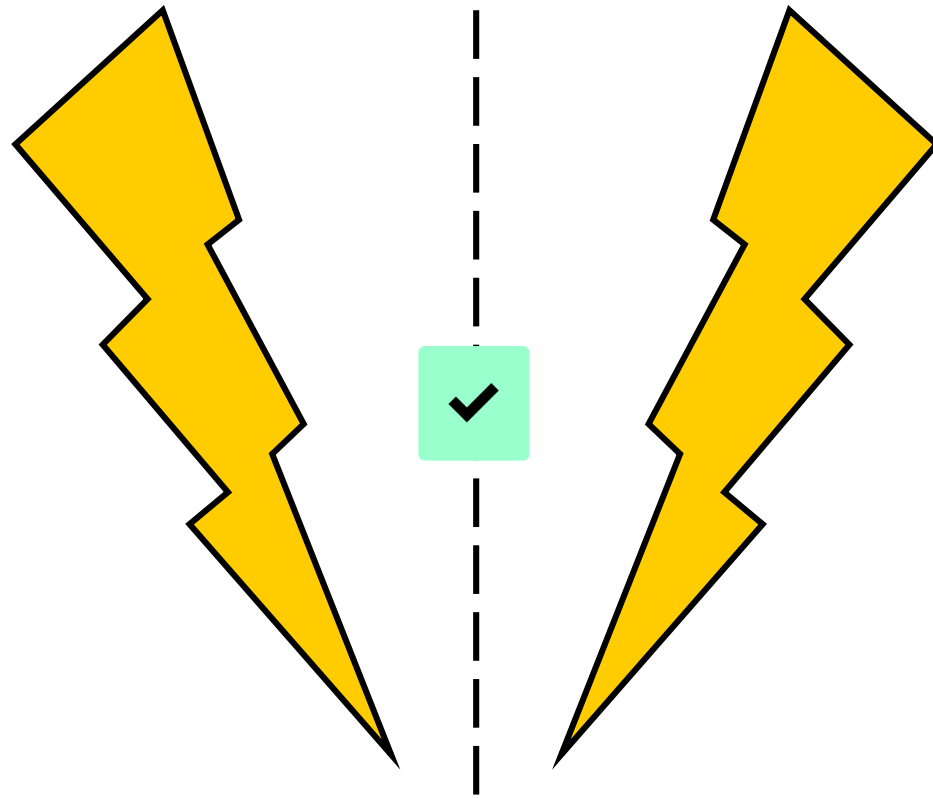
# Reflection

Is this reflection correct?



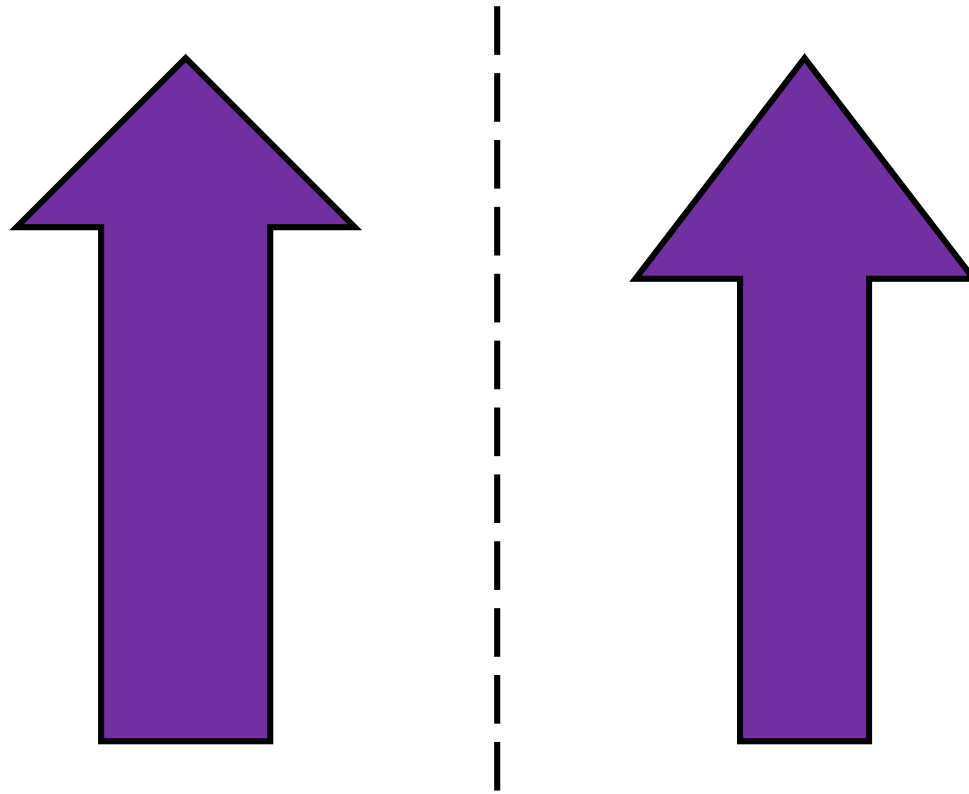
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Is this reflection correct?



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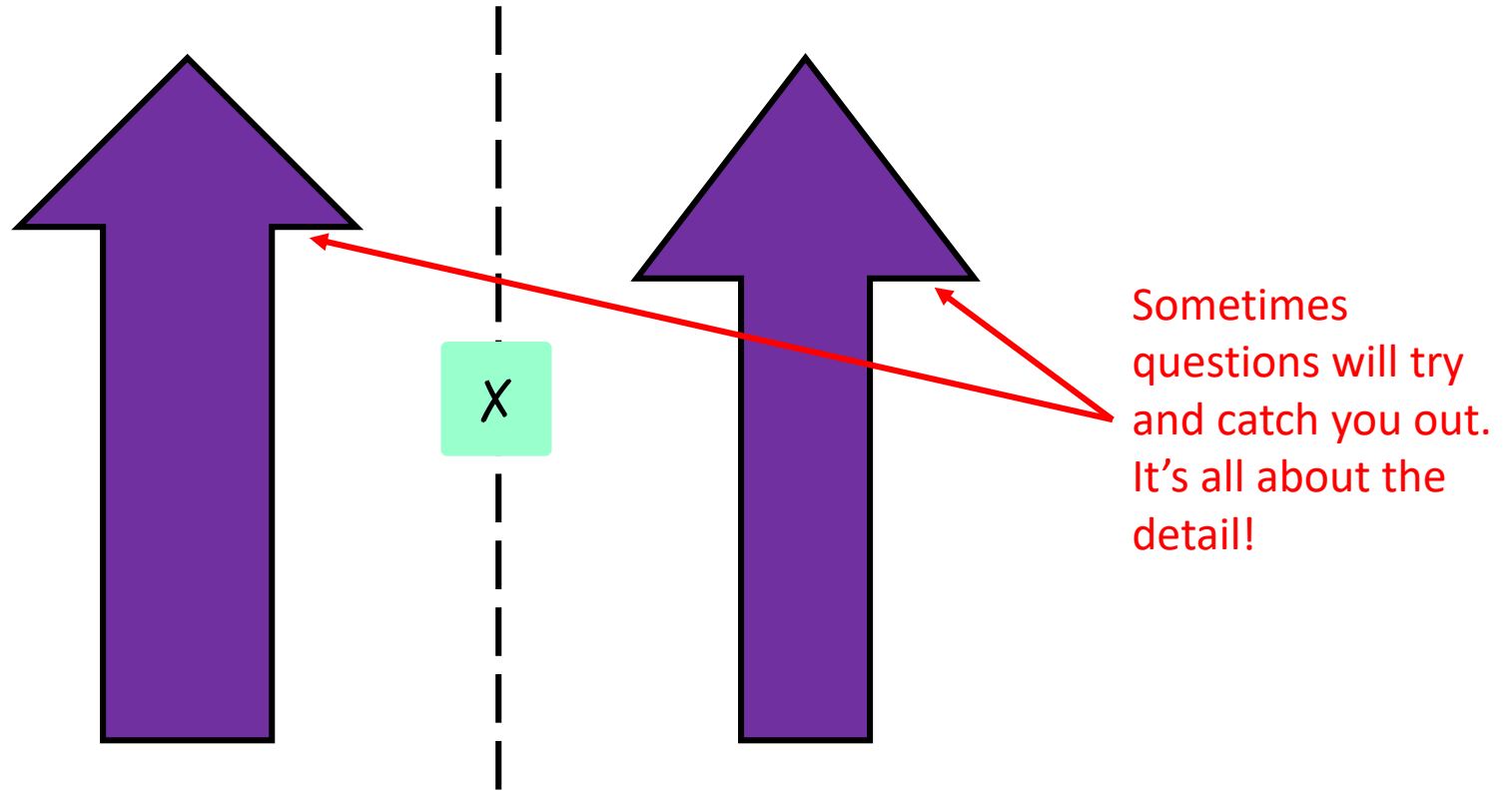
Is this reflection correct?





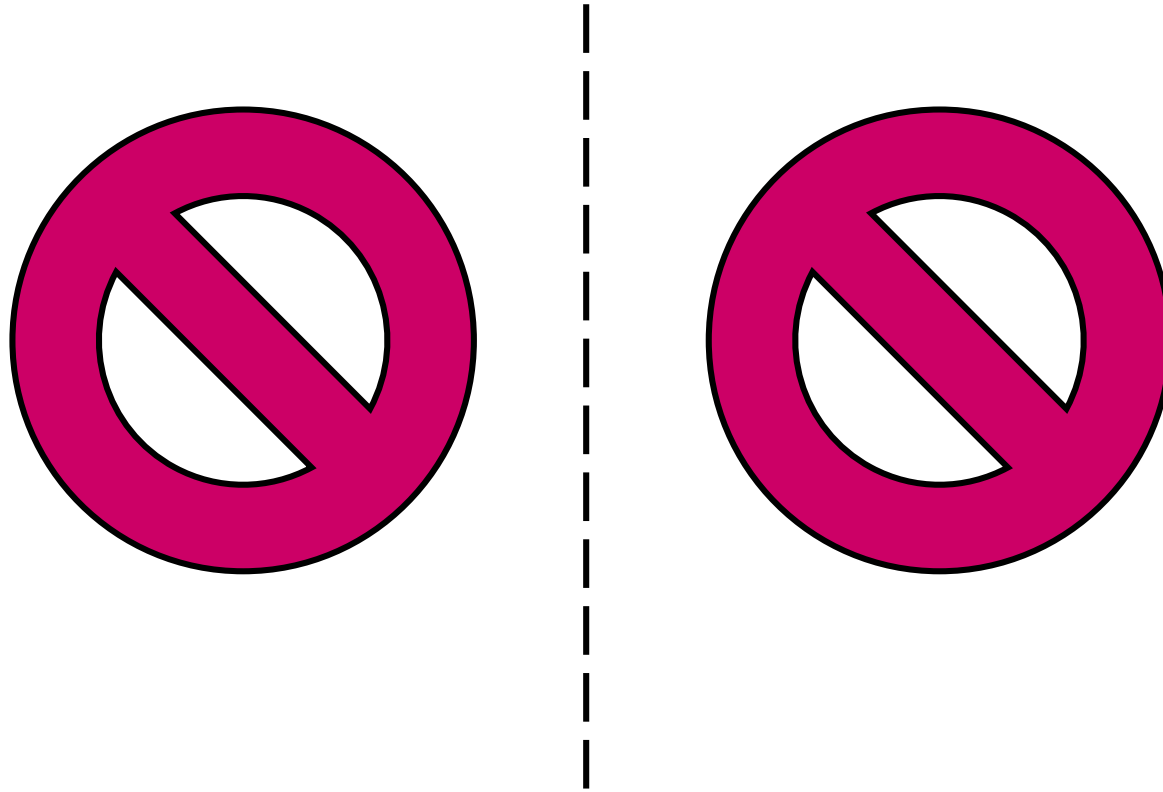
# Reflection

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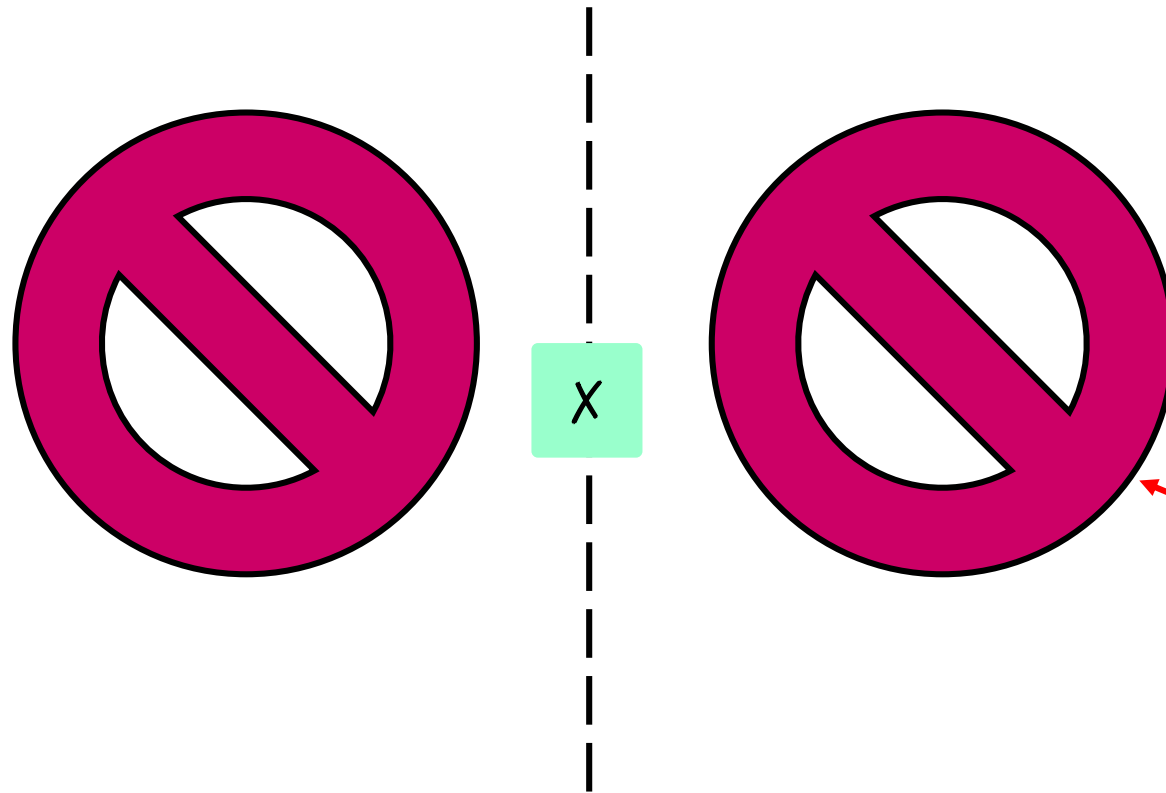
# Reflection

Is this reflection correct?



# Reflection

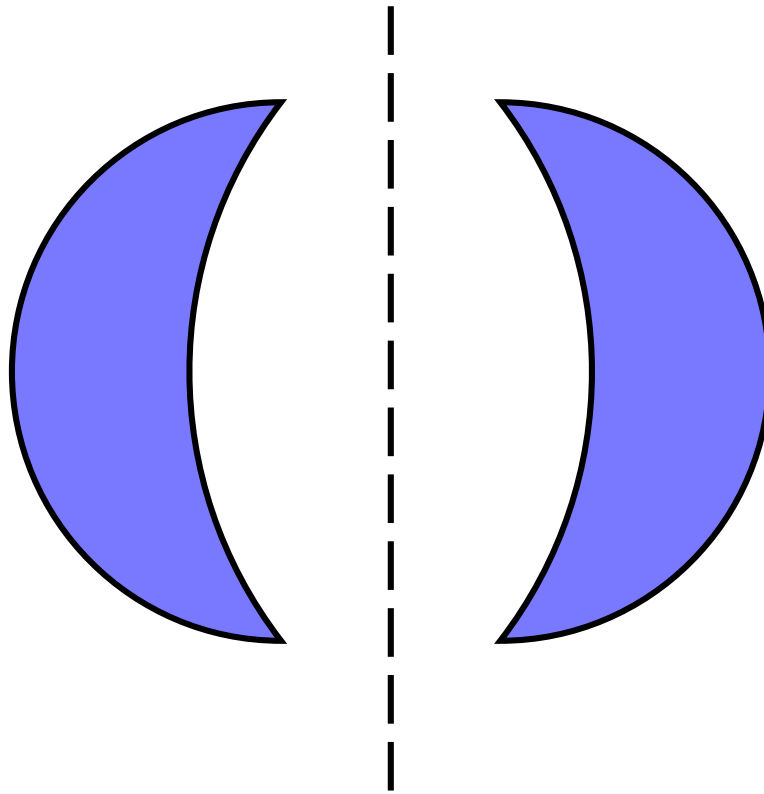
Is this reflection correct?



This shape is a translation NOT a reflection.

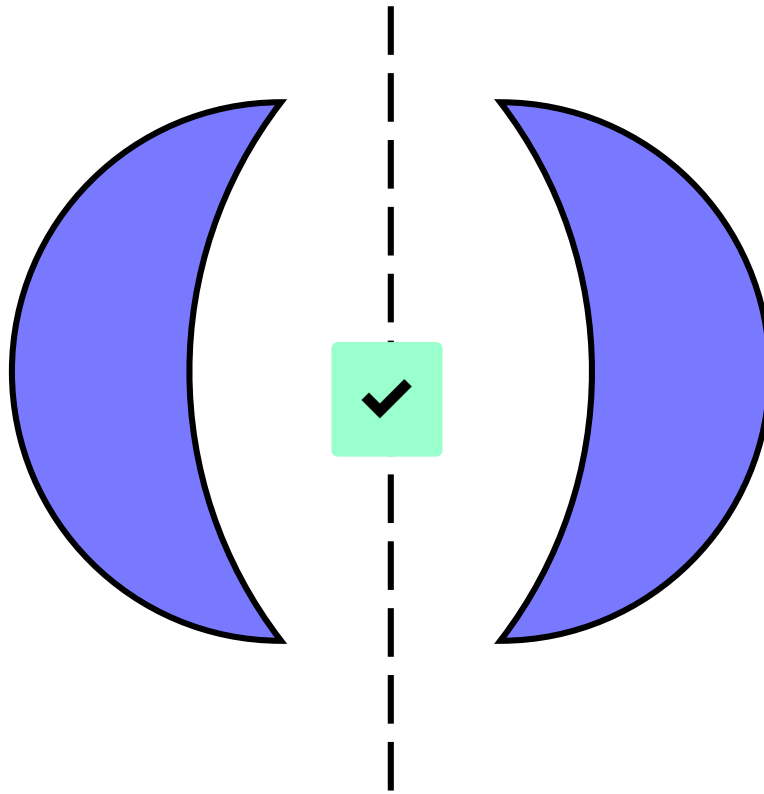
# Reflection

Is this reflection correct?



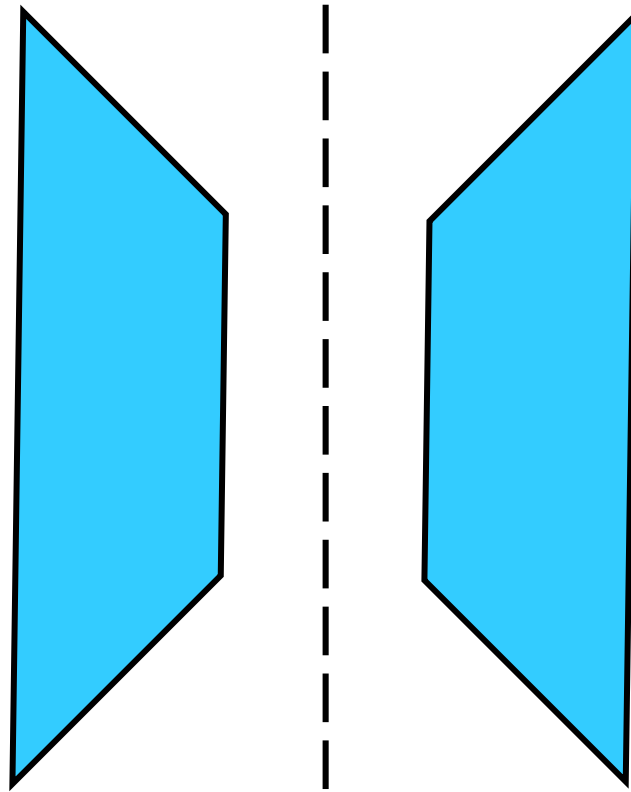
# Reflection

Is this reflection correct?



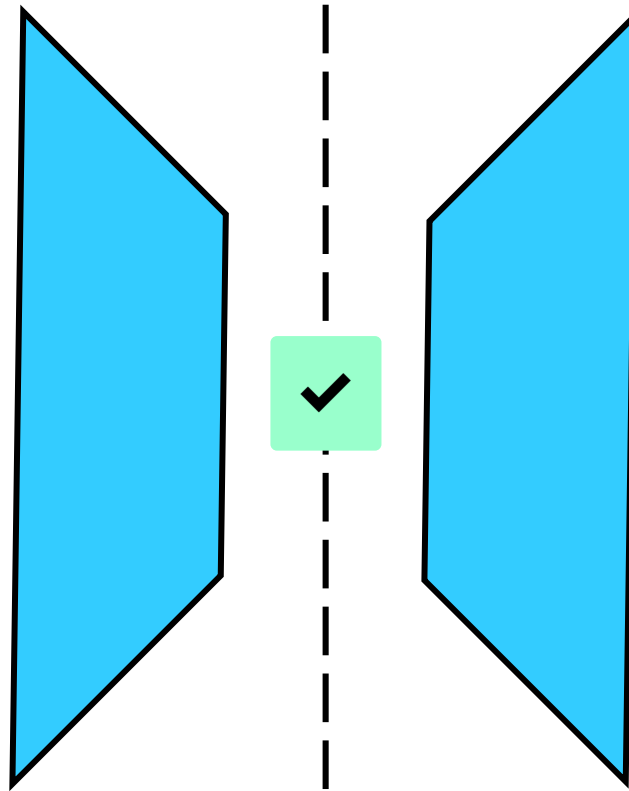
# Reflection

Is this reflection correct?



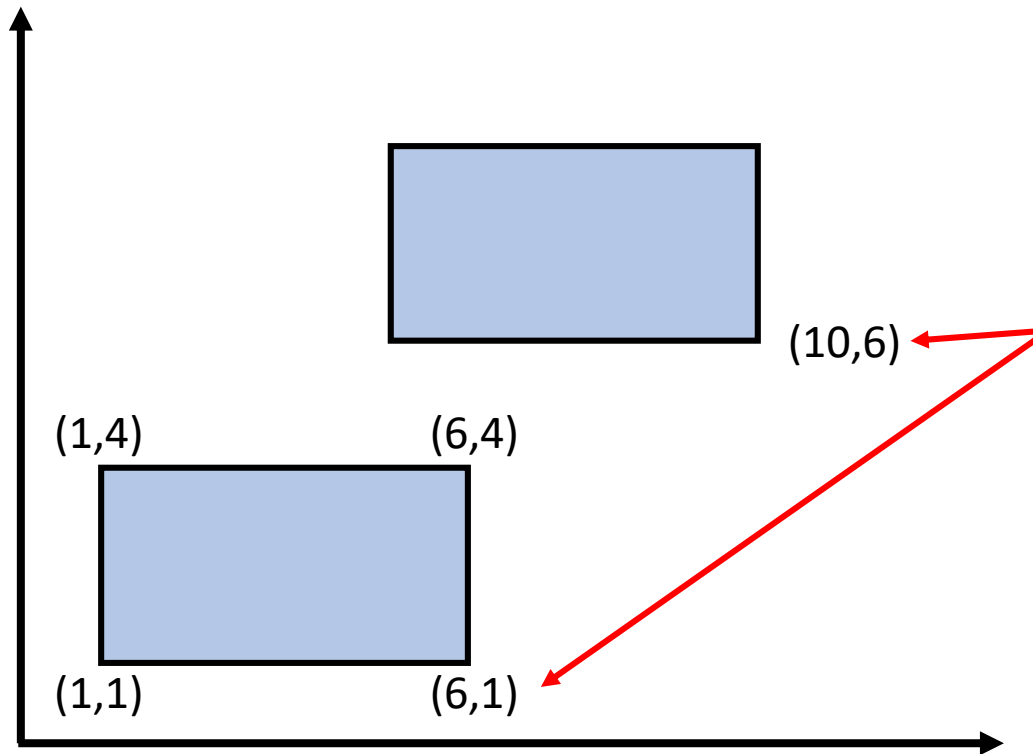
# Reflection

Is this reflection correct?



# Translation

Write the missing co-ordinates of the translated shape.

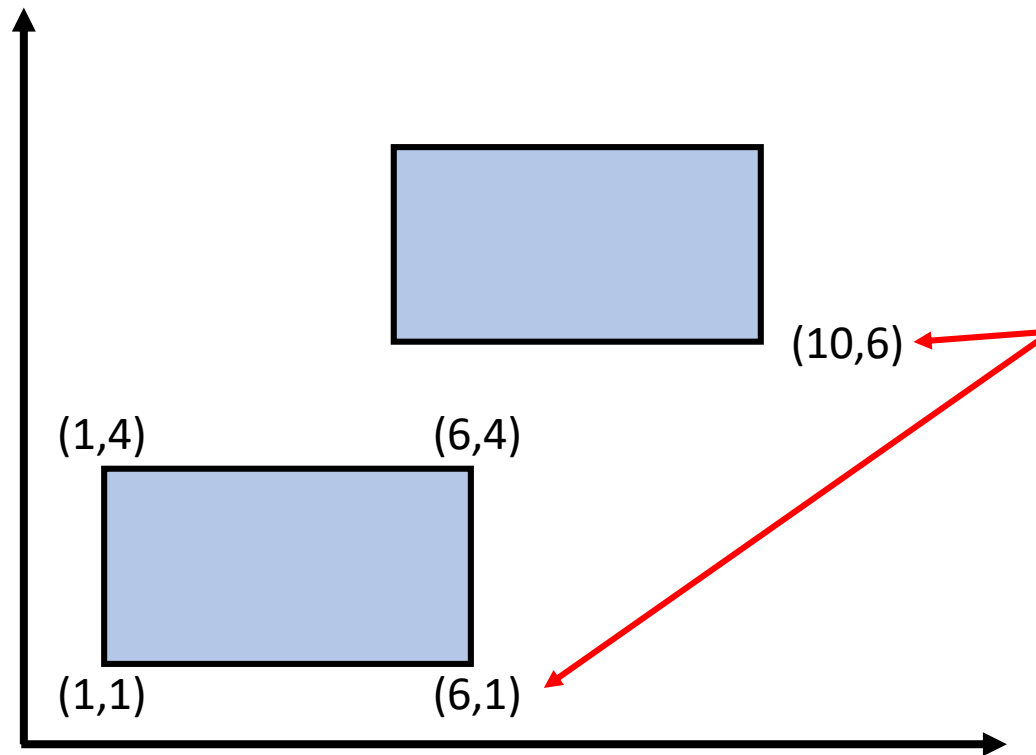


**HINT** – The key to understanding this question is to knowing the difference between two co-ordinates. What is the difference?



# Translation

Write the missing co-ordinates of the translated shape.

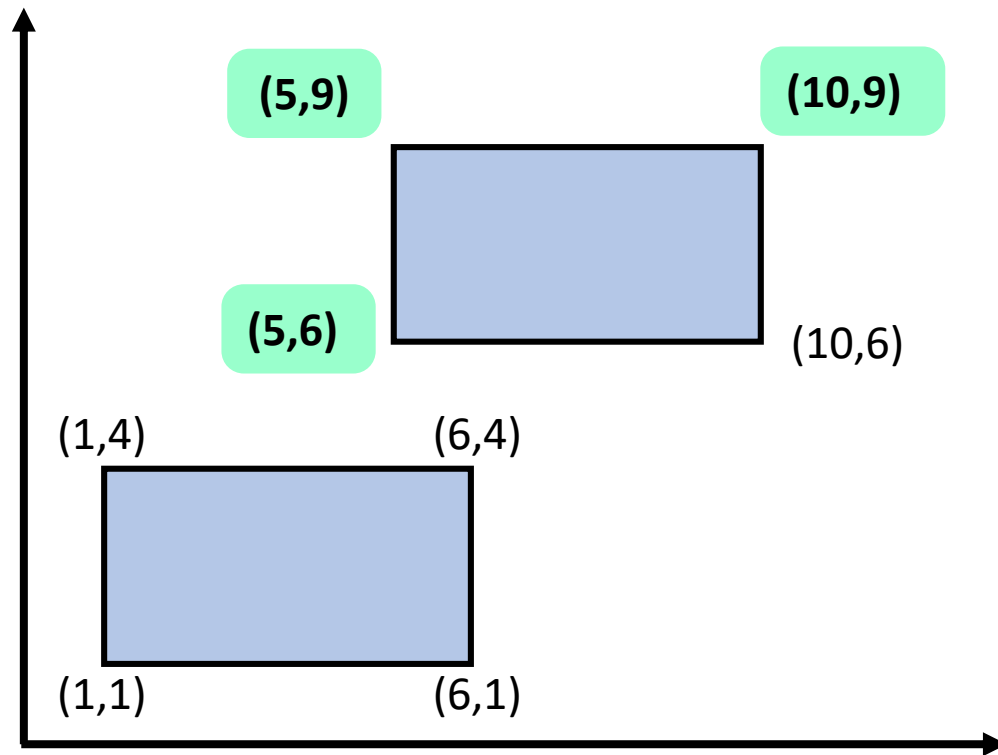


**HINT** – The key to understanding this question is to knowing the difference between two co-ordinates. What is the difference?

The difference between on the horizontal is 4 and on the vertical is 5. Just add these to the original co-ordinates. What are the other missing co-ordinates?

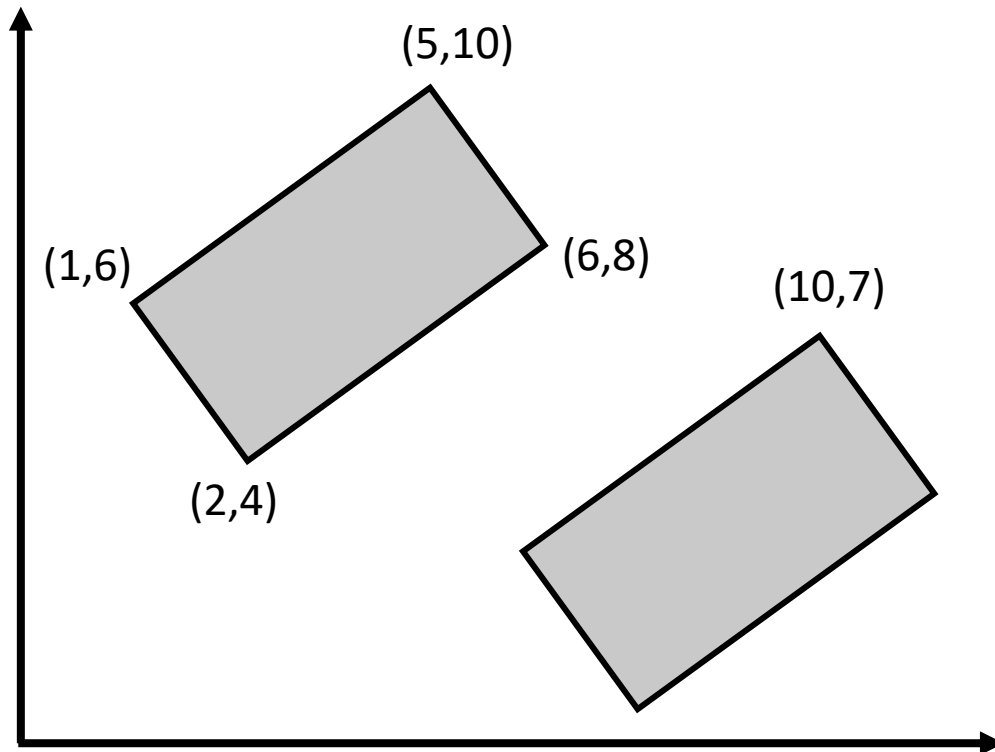
# Translation

Write the missing co-ordinates of the translated shape.



# Translation

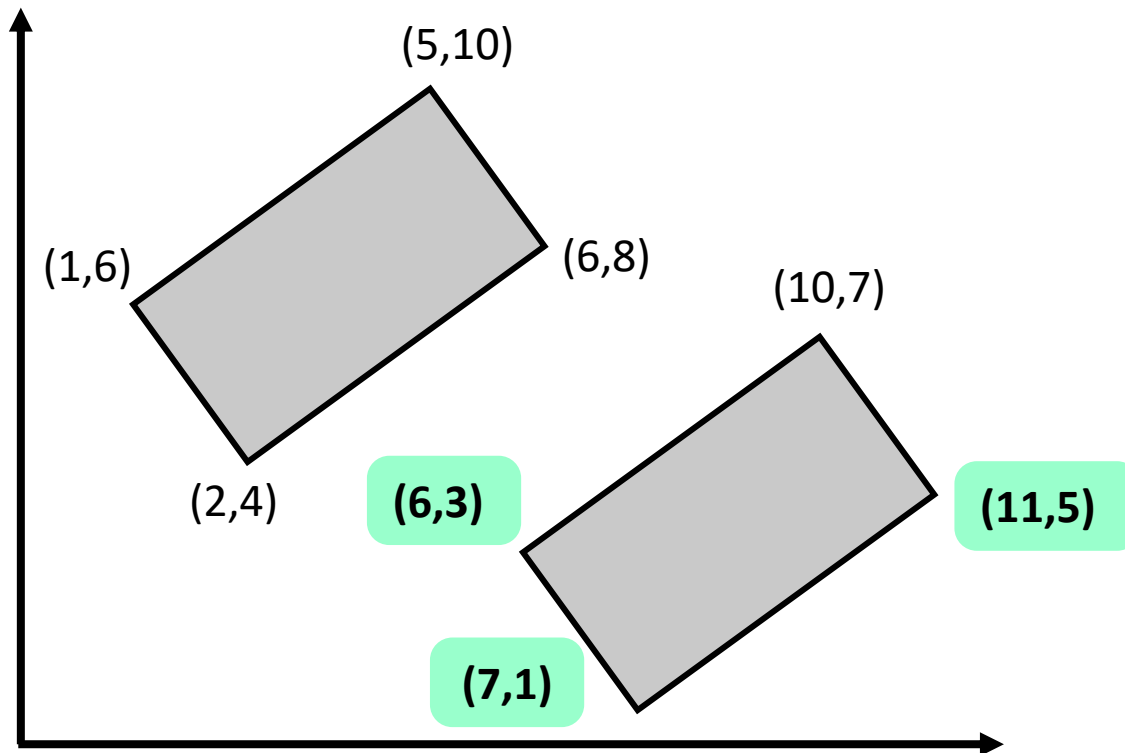
Write the missing co-ordinates of the translated shape.



The difference between on the horizontal is 5 and on the vertical is -3. Just adjust these with the original co-ordinates. What are the other missing co-ordinates?

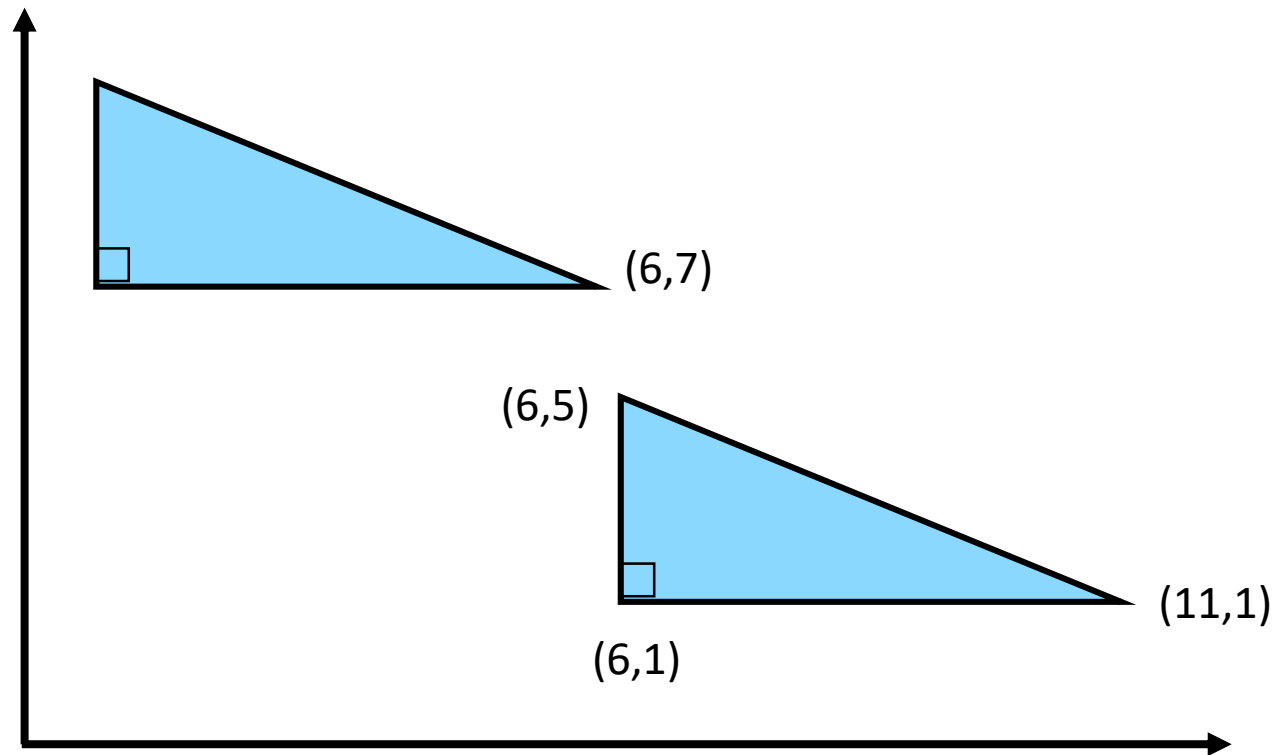
# Translation

Write the missing co-ordinates of the translated shape.



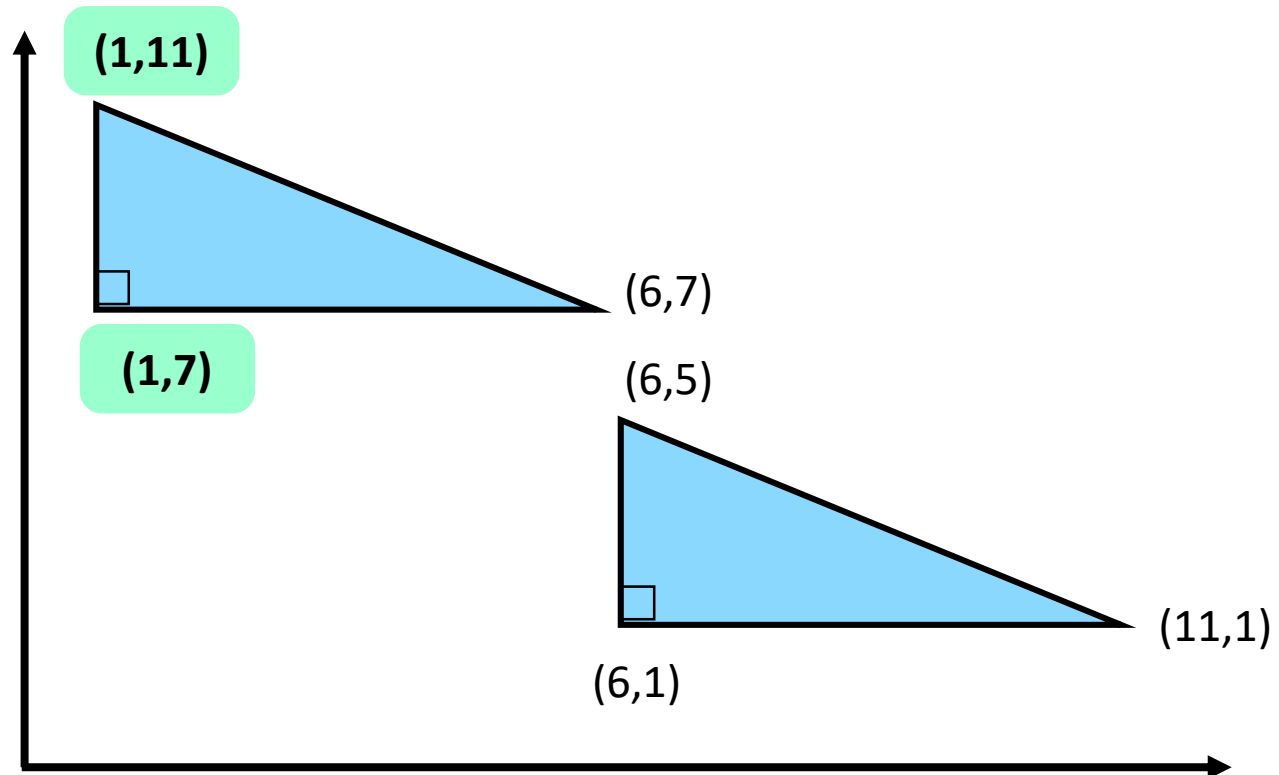
# Translation

Write the missing co-ordinates of the translated shape.



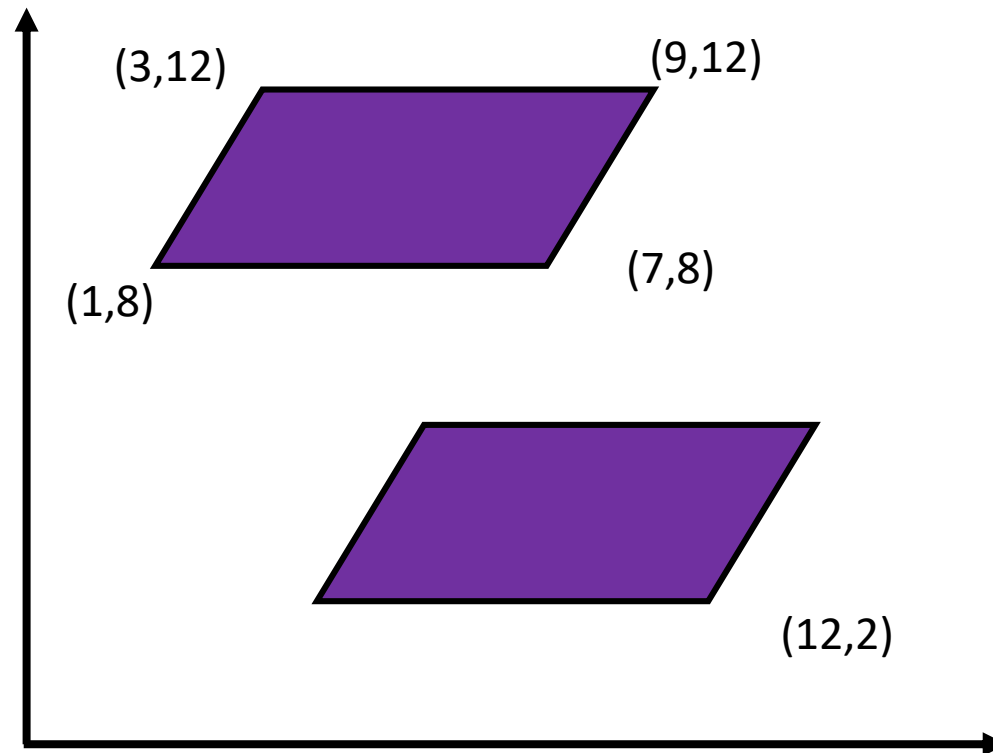
# Translation

Write the missing co-ordinates of the translated shape.



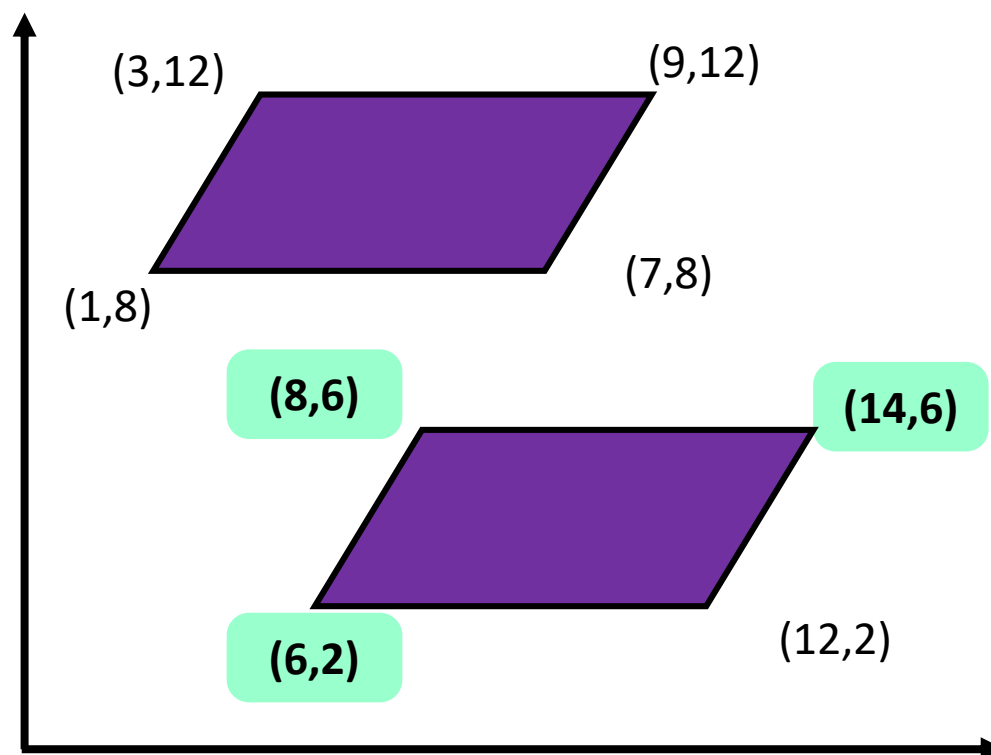
# Translation

Write the missing co-ordinates of the translated shape.



# Translation

Write the missing co-ordinates of the translated shape.





# Tasks

Complete –

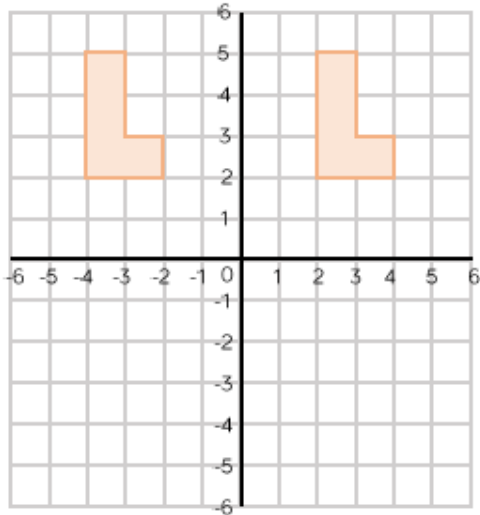
- Worksheet.

If you have any misunderstandings then please head to Education City or email the school on –

[learning@wembleyprimary.brent.sch.uk](mailto:learning@wembleyprimary.brent.sch.uk)

# Worksheet

Annie has reflected the shape in the  $y$ -axis.  
Is her drawing correct?  
If not explain why.



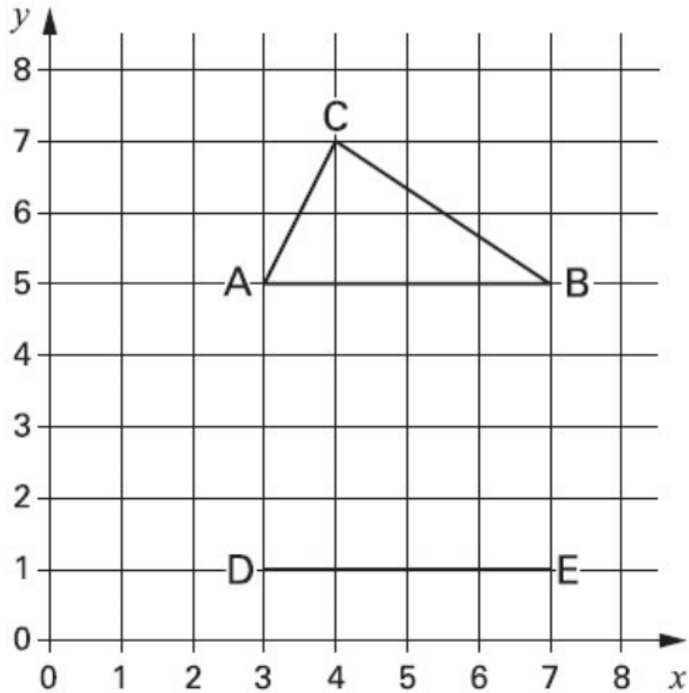
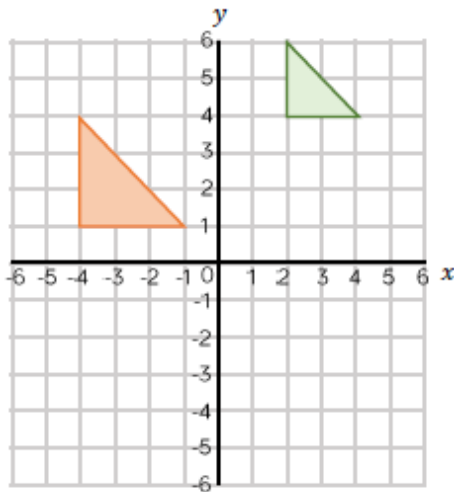
Mo has written the coordinates of points A, B and C.

A (1, 1)    B (2, 7)    C (3, 0)

Mark Mo's work and correct his mistakes.

## Spot the Mistake.

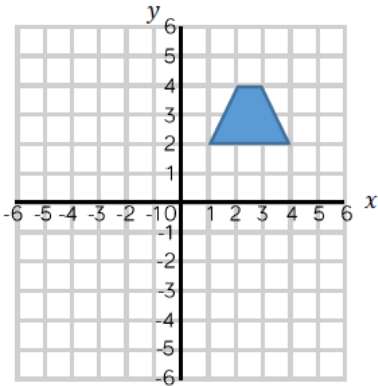
The green triangle has been translated 6 units to the left and 3 units down.



Holly has started to draw an **identical** triangle DEF.

What will be the coordinates of point F?

Reflect the trapezium in the  $x$ -axis and then the  $y$  -axis.  
Complete the table with the new coordinates of the shape.

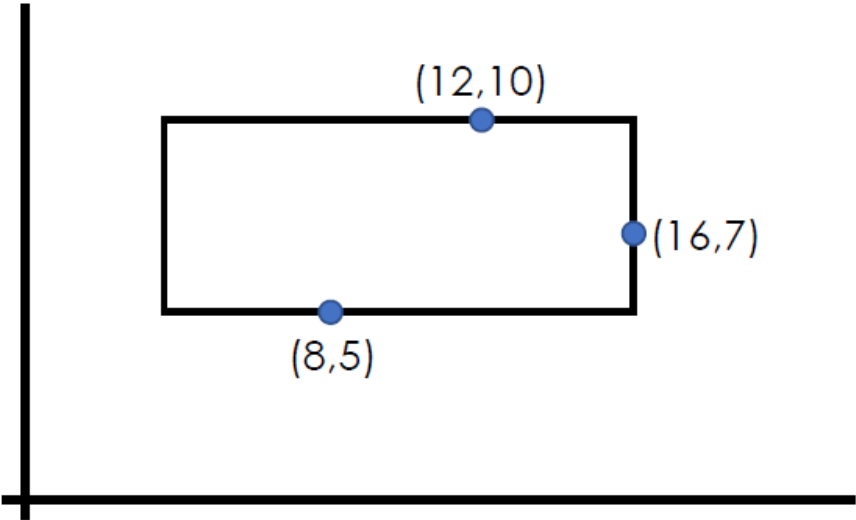


	Reflected in the $x$ -axis	Reflected in the $y$ -axis
(1, 2)		
(4, 2)		
(2, 4)		
(3, 4)		

# Extra Challenge

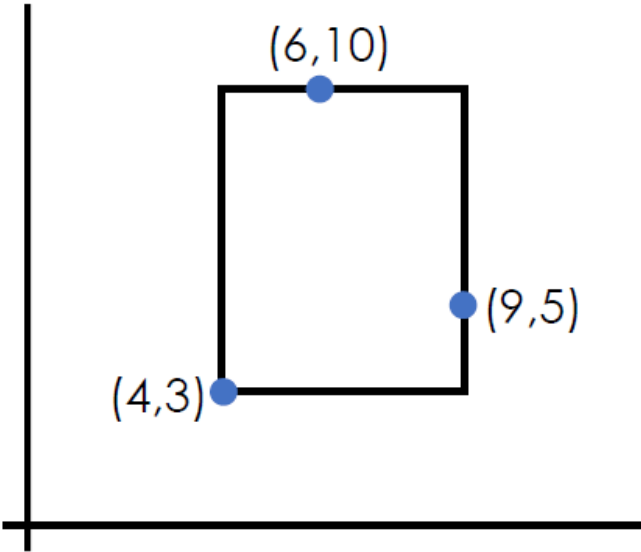
Explain

Which of the vertices can be calculated?



Explain

Inside, on the edge or outside the rectangle?



	Inside	Edge	Outside
(4,5)		✓	
(5,9)			
(3,7)			
(9,8)			

# Thursday 4<sup>th</sup> June 2020

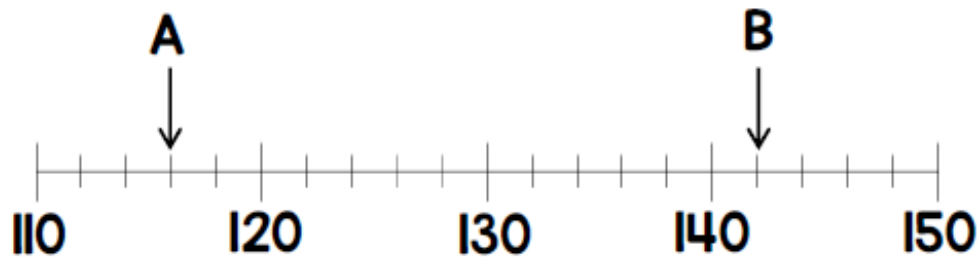
This week we have an extra investigation for you to get going on.

This is the opportunity to use the knowledge that you have learnt throughout the week to use in an investigation.

This is a great chance for you to challenge yourself and ask yourself questions to push your understanding further.

# Problems of the day.

- 1** A number line has 2 numbers marked.



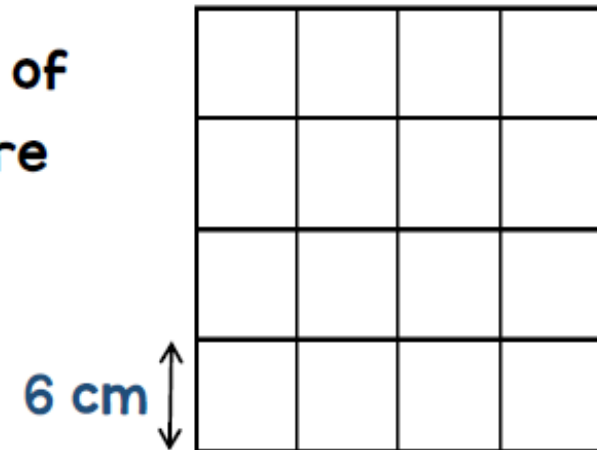
True or False

$$A + B > 250$$

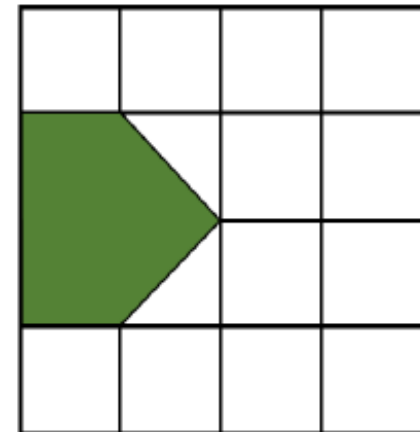
Explain your answer.

- 2** Dana has a square grid.

The length of each square is 6 cm.



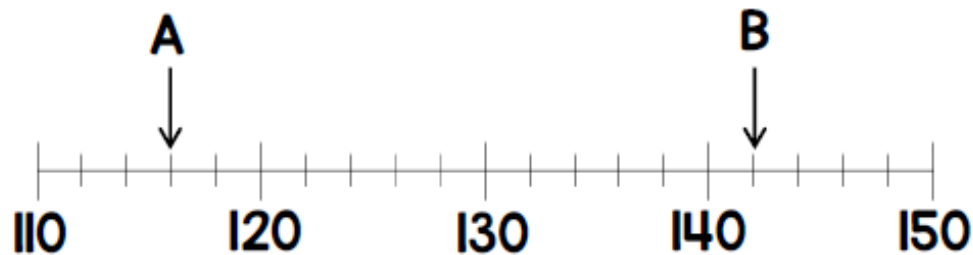
Dana shades in part of the grid.



What is area of the shaded part of the grid?

# Problems of the day.

- 1** A number line has 2 numbers marked.



True or False

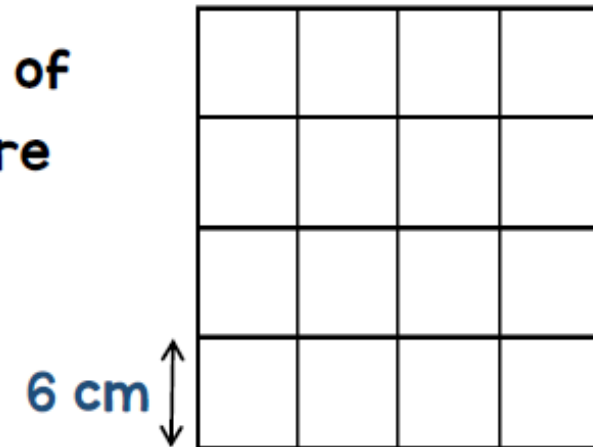
$$A + B > 250$$

Explain your answer.

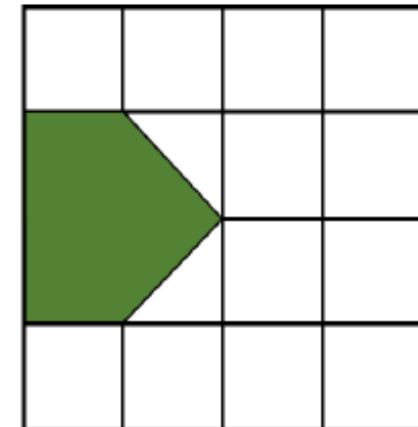
True.  $110 + 140 = 250$ , and A is greater than 110 and B is greater than 140 so their total must be greater than 150

- 2** Dana has a square grid.

The length of each square is 6 cm.



Dana shades in part of the grid.



What is the area of the shaded part of the grid?

$$108 \text{ cm}^2$$

# Tasks

Complete –

- Worksheet.

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[learning@wembleyprimary.brent.sch.uk](mailto:learning@wembleyprimary.brent.sch.uk)

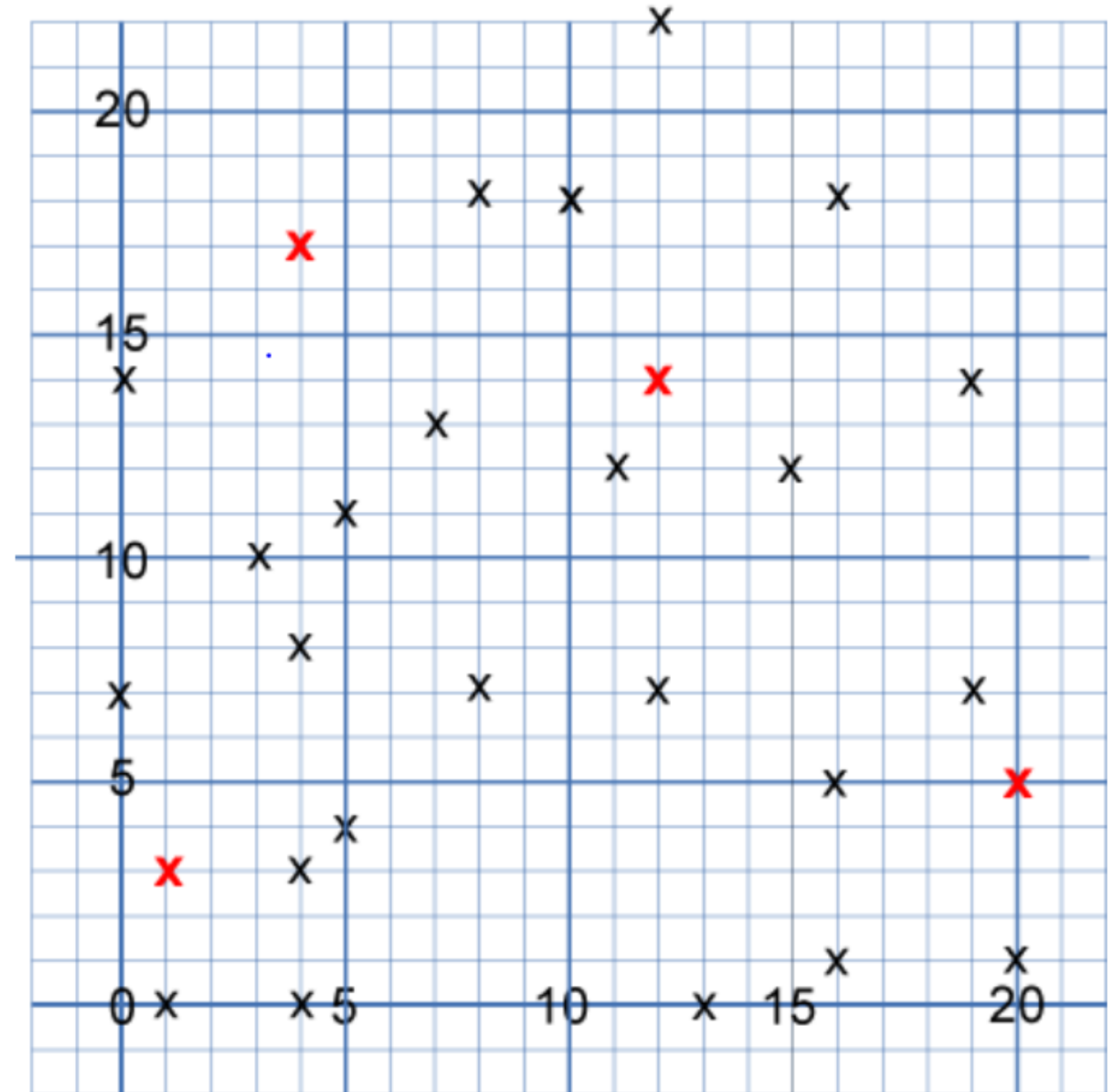
# Worksheet

On the graph below there are 28 marked points.

## Rules

- These points all mark the vertices (corners) of eight hidden squares.
- Each of the 4 red points is a vertex shared by two squares.
- The other 24 points are each a vertex of just one square.
- All of the squares share just one vertex with another square.
- All squares are different sizes.
- There are no marked points on the sides of any square, only at the vertices.

Can you find the eight hidden squares?





# Friday 5<sup>th</sup> June 2020

This is the opportunity to use the knowledge that you have learnt throughout the week to use in an investigation.

This is a great chance for you to challenge yourself and ask yourself questions to push your understanding further.

# Problems of the day.

**1** Which of the fractions add up to 1?

$$\frac{1}{5} \quad \frac{3}{10} \quad \frac{3}{5} \quad \frac{1}{2}$$

Which two of the fractions below have the greatest difference?

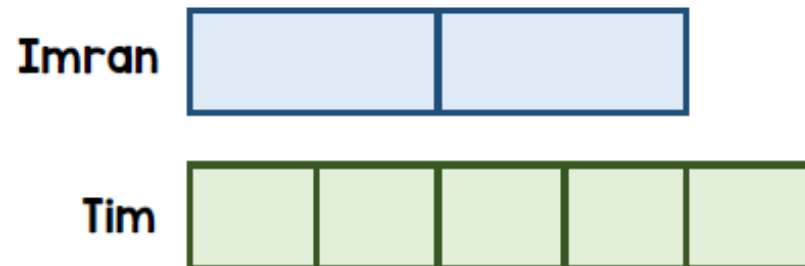
$$\frac{4}{9} \quad \frac{1}{3} \quad \frac{1}{6} \quad \frac{7}{18}$$

**2** Imran and Tim each think of a number.

$\frac{1}{2}$  of Imran's number is equal to  $\frac{2}{5}$  of Tim's number.

The total of their numbers is 144

What number is Imran thinking of?



# Problems of the day.

**1** Which of the fractions add up to 1?

$$\left(\frac{1}{5}\right) \left(\frac{3}{10}\right) \frac{3}{5} \left(\frac{1}{2}\right)$$

Which two of the fractions below have the greatest difference?

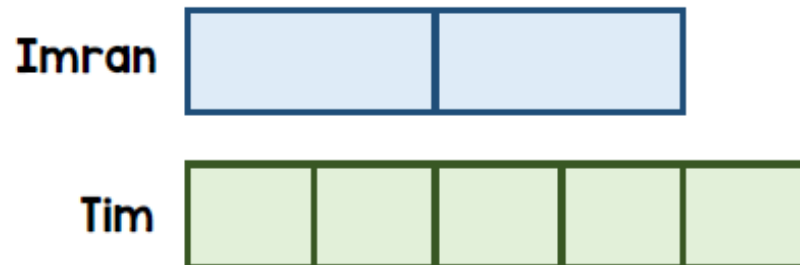
$$\left(\frac{4}{9}\right) \frac{1}{3} \left(\frac{1}{6}\right) \frac{7}{18}$$

**2** Imran and Tim each think of a number.

$\frac{1}{2}$  of Imran's number is equal to  $\frac{2}{5}$  of Tim's number.

The total of their numbers is 144

What number is Imran thinking of?



Imran is thinking of 64

# Tasks

Complete –

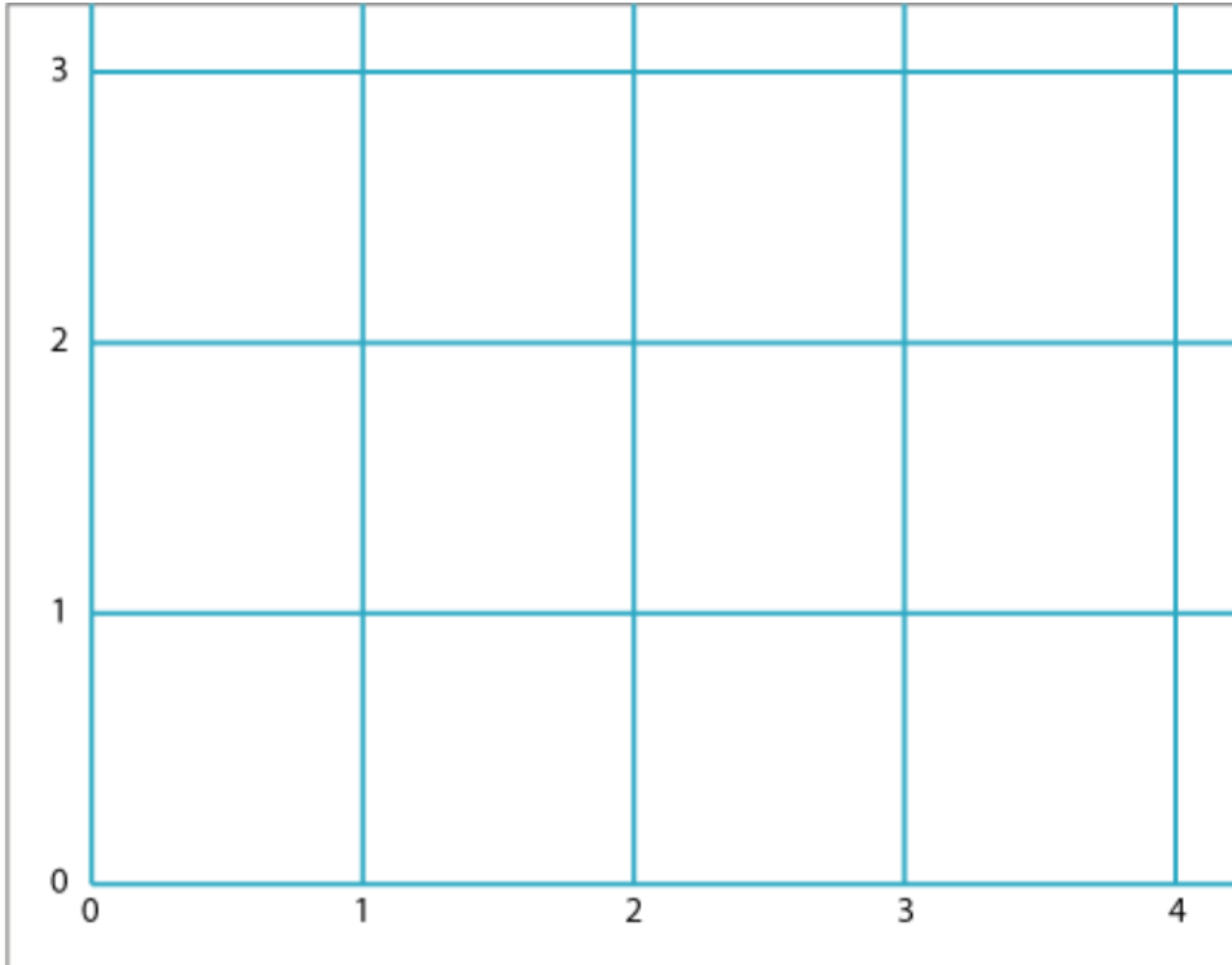
- Worksheet.

If you have any misunderstandings then please head to Education City or email the school on –

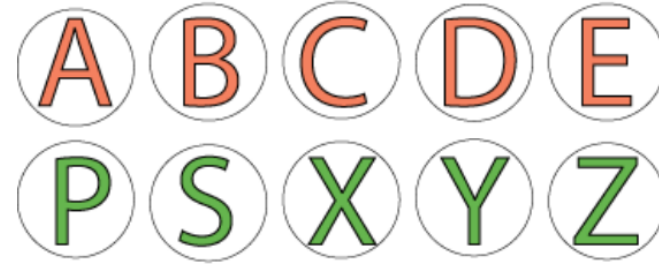
[learning@wembleyprimary.brent.sch.uk](mailto:learning@wembleyprimary.brent.sch.uk)

# Worksheet

Here is a grid:



Can you position these ten letters in their correct places according to the eight clues below?



Clues:

The letters at (1, 1), (1, 2) and (1, 3) are all symmetrical about a vertical line.

The letter at (4, 2) is not symmetrical in any way.

The letters at (1, 1), (2, 1) and (3, 1) are symmetrical about a horizontal line.

The letters at (0, 2), (2, 0) have rotational symmetry.

The letter at (3, 1) consists of just straight lines.

The letters at (3, 3) and (2, 0) consist of just curved lines.

The letters at (3, 3), (3, 2) and (3, 1) are consecutive in the alphabet.

The letters at (0, 2) and (1, 2) are at the two ends of the alphabet.

You could use this interactivity to try out your ideas.