WC 06.07.2020

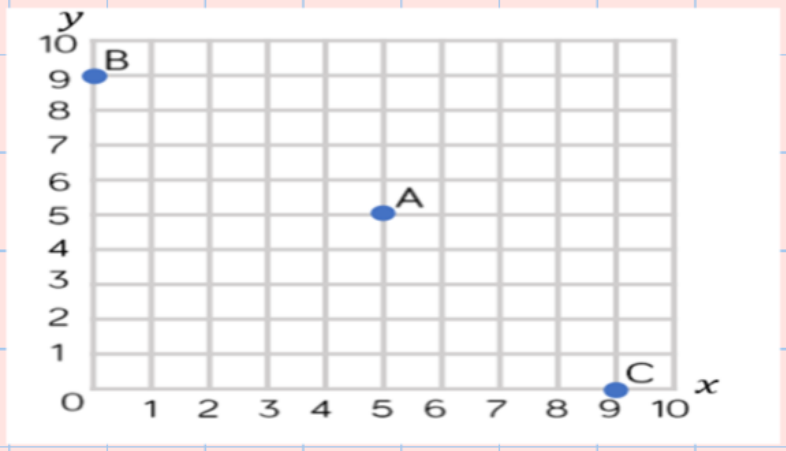
Positional Direction

Monday

LO: The First Quadrant

Remember to read along the x axis first and the y axis second

Which axis do I look at first?



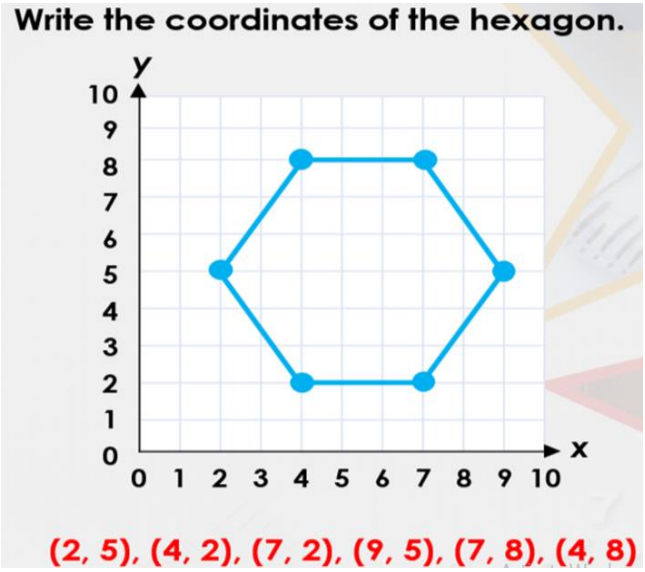
Coordinates for:

A= (5,5)

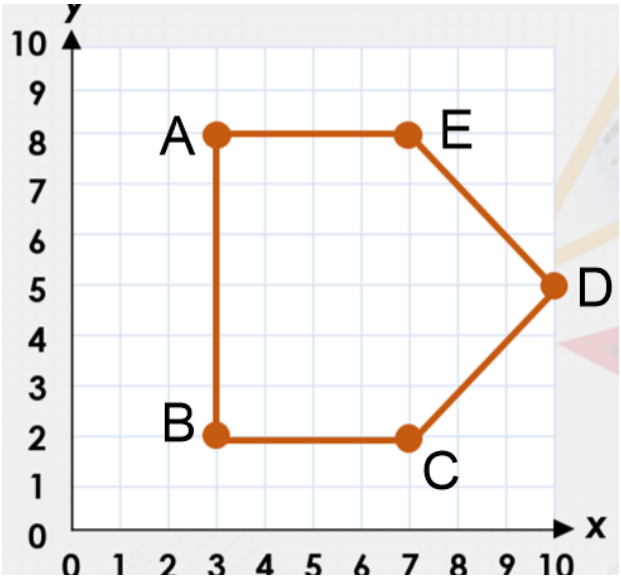
B= (0,9)

C= (9,0)

Here's another example:



You try: What are the coordinates?



Which set of questions will you solve?

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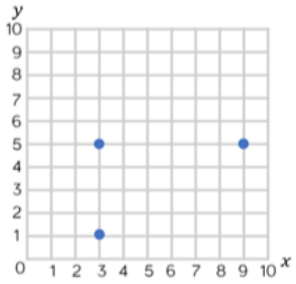
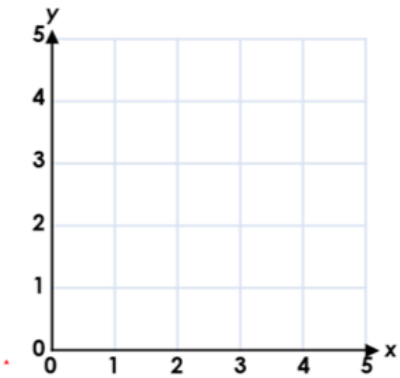
Positional Direction

Tommy is drawing a rectangle on a grid.
Plot the final vertex of the rectangle.
Write the coordinate of the final vertex.



1a. Plot the following coordinates to make an isosceles triangle:
Which is the odd one out? Prove it.



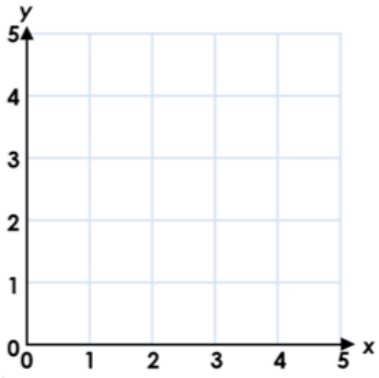
(2, 1)

(4, 1)

(1, 5)

(3, 2)

1b. Plot the following coordinates to make a square:
Which is the odd one out? Prove it.



(1, 1)

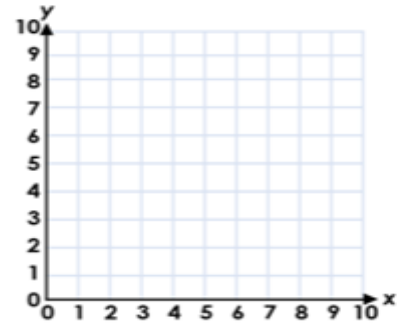
(1, 4)

(5, 5)

(4, 1)

(4, 4)

4a. Plot the following coordinates to make a hexagon:
Which is the odd one out? Prove it.



(3, 0)

(1, 2)

(3, 7)

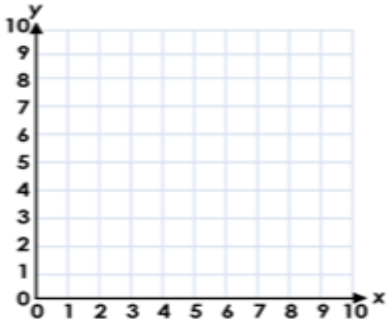
(7, 1)

(1, 5)

(5, 5)

(5, 2)

4b. Plot the following coordinates to make a hexagon:
Which is the odd one out? Prove it.



(3, 8)

(1, 7)

(5, 7)

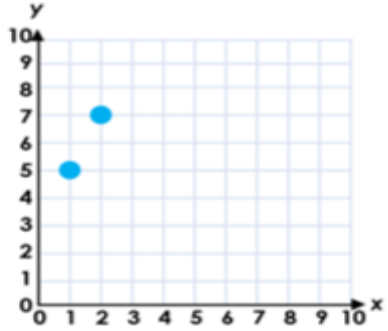
(7, 2)

(1, 4)

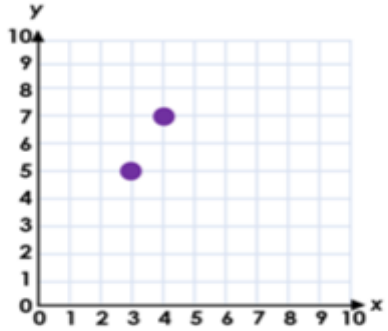
(5, 4)

(3, 3)

5a. Ava is drawing a hexagon. She has plotted the first two points. What coordinates could complete the shape?



5b. Dan is drawing a pentagon. He has plotted the first two points. What coordinates could complete the shape?



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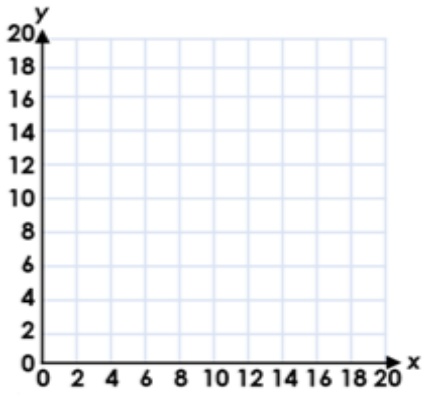
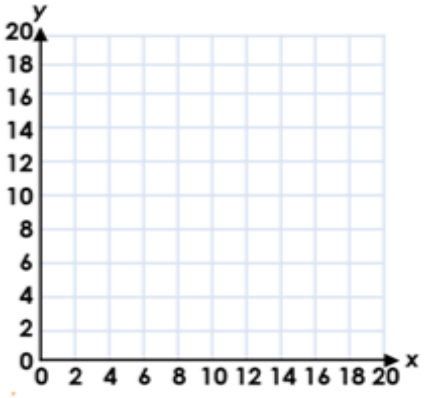
Positional Direction

7a. Plot the following coordinates to make an octagon.
Which two are the odd ones out? Prove it.



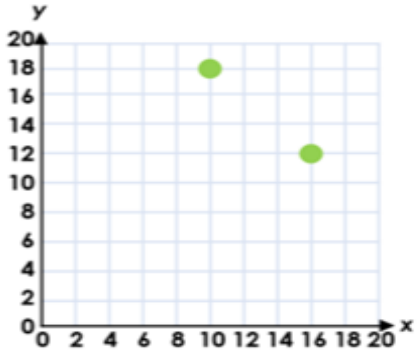
(6, 7)
(10, 19)
(6, 19)
(10, 7)
(14, 20)
(15, 7)
(4, 15)
(12, 11)
(4, 11)
(12, 15)

7b. Plot the following coordinates to make an octagon.
Which two are the odd ones out? Prove it.

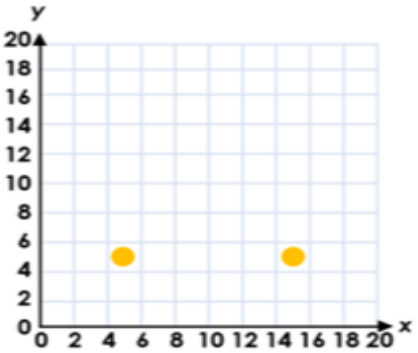


(3, 2)
(7, 2)
(1, 6)
(1, 10)
(12, 2)
(3, 14)
(9, 10)
(7, 14)
(9, 6)
(11, 15)

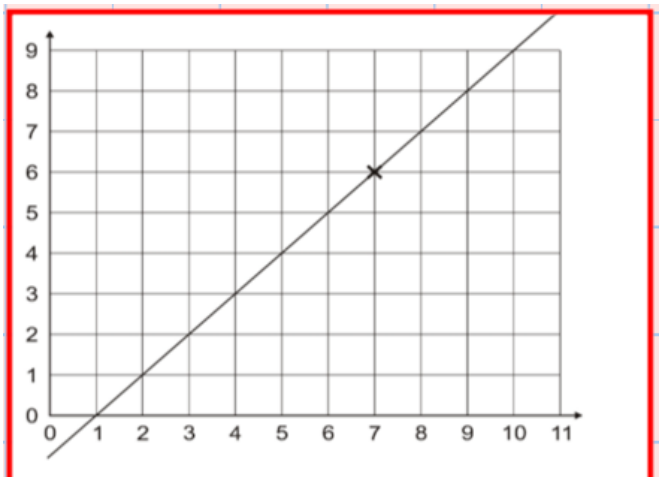
8a. Sadia is drawing a heptagon. She has plotted the first two points. What coordinates could complete the shape?



8b. Logan is drawing an octagon. He has plotted the first two points. What coordinates could complete the shape?



Challenge:



(7, 6) are coordinates of a point on the line.

Tick (✓) which of these are coordinates of other points on the line.

(3, 2) ☐ (9, 10) ☐ (5, 4) ☐

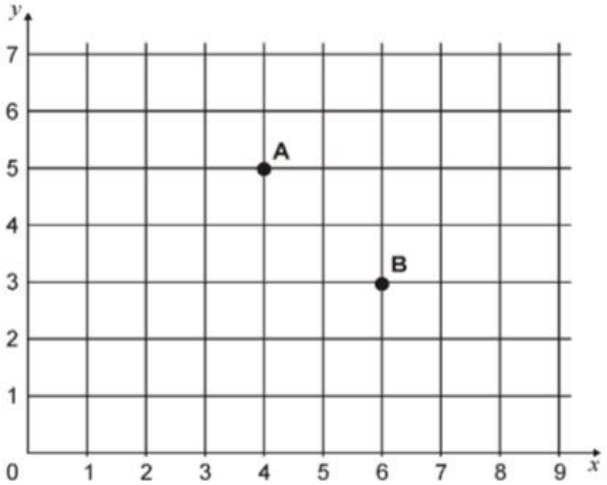
(4, 2) ☐ (10, 9) ☐ (7, 9) ☐

How do you know that point (11, 12) would not be on this line?

Reasoning:

A, **B**, **C** and **D** are the vertices of a rectangle.

A and **B** are shown on the grid.



D is the point (3, 4)

Write the coordinates of point **C**.

WC 06.07.2020
Positional Direction

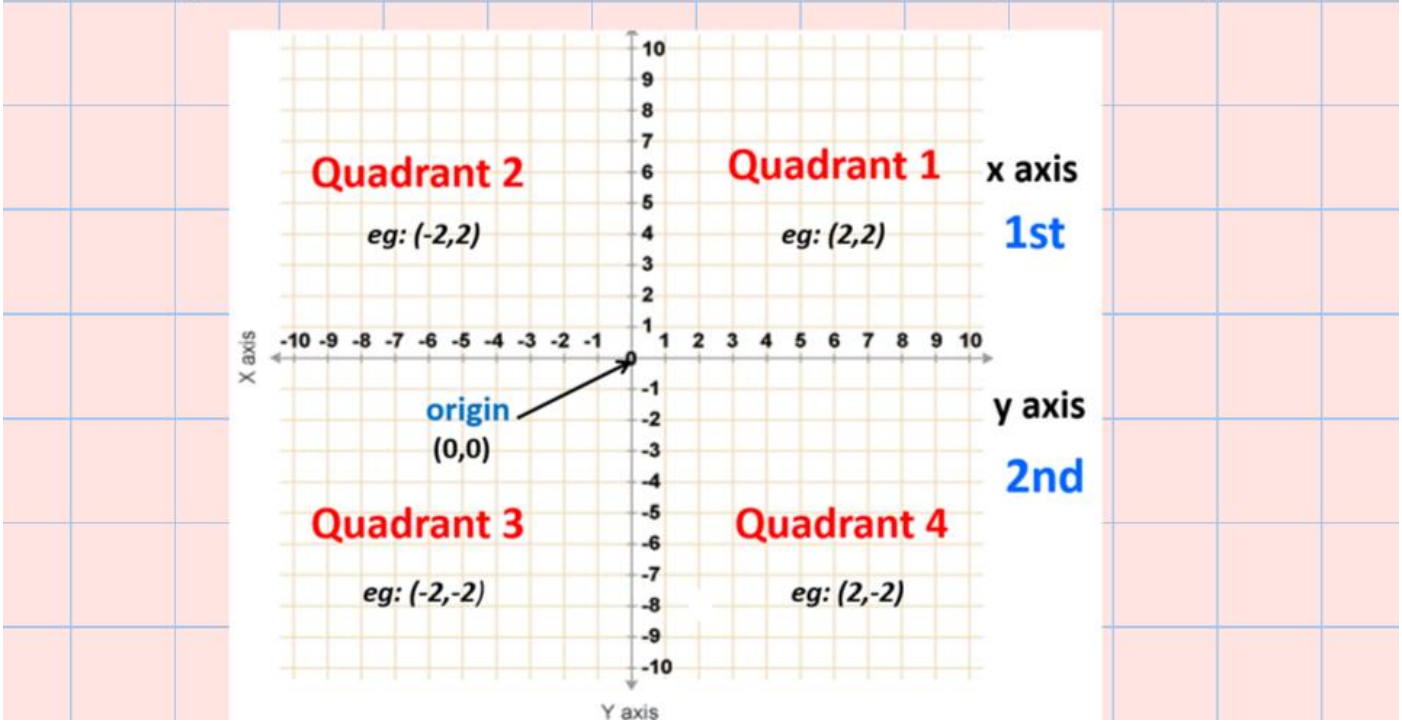
Purple Mash: Coordinates 1

Rock Stars: You should be able to recall all of your timestables.

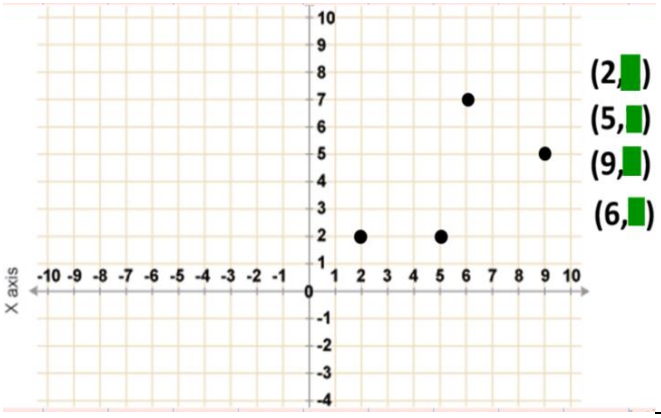
Tuesday

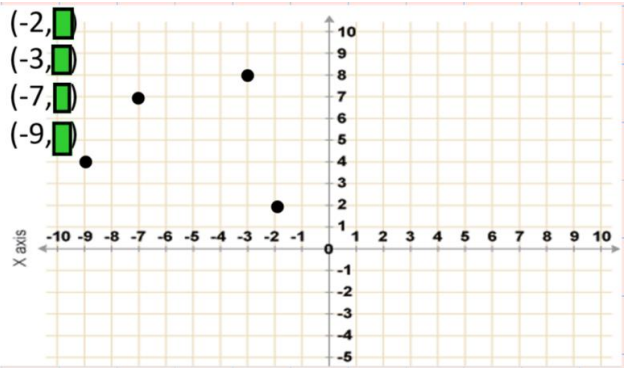
LO: Four Quadrants

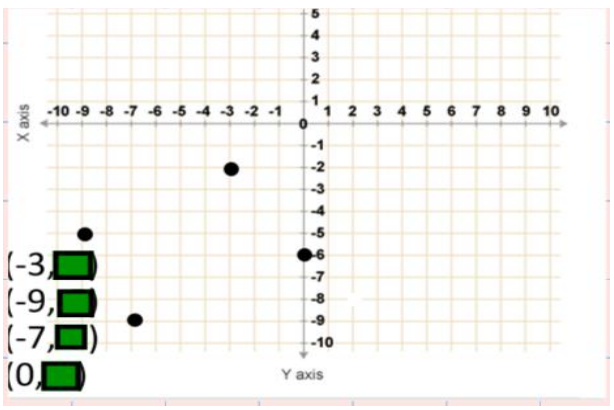
Which quadrant is which? Where do I plot the points?

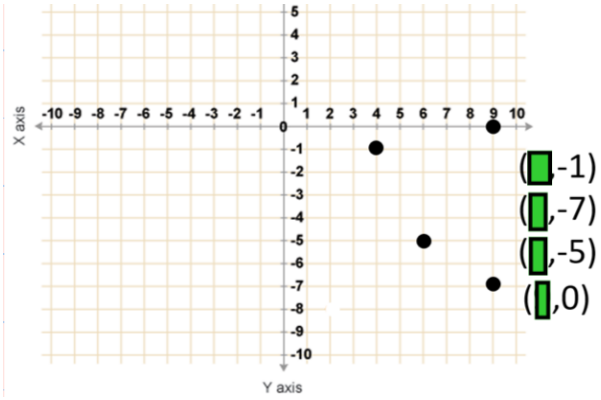


What are the coordinates?









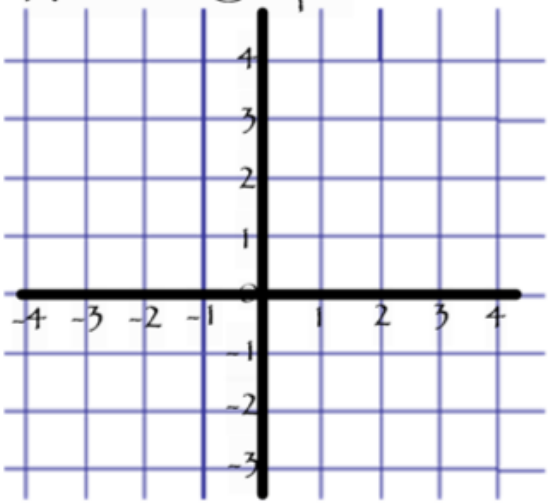
WC 06.07.2020

Positional Direction

Which set of questions will you solve?

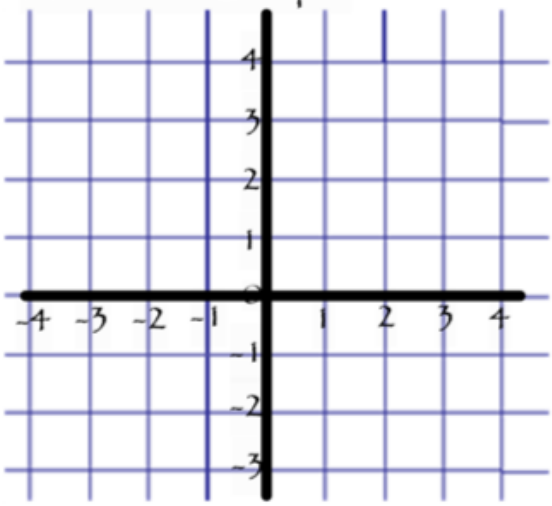
Plot: (2,-1), (-1,-1), (-2,3)

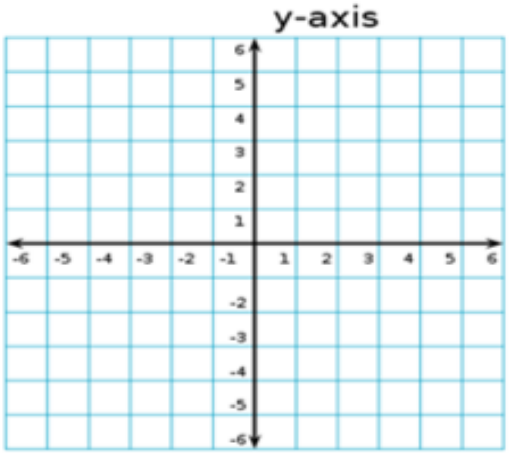
Name the Shape:



Plot: (-1,-1), (-1,3), (3,3), (3,-1)

Name the Shape:





Question 1

Plot the following co-ordinates on your grid. (remember to use a ruler!)

A (5, 2)

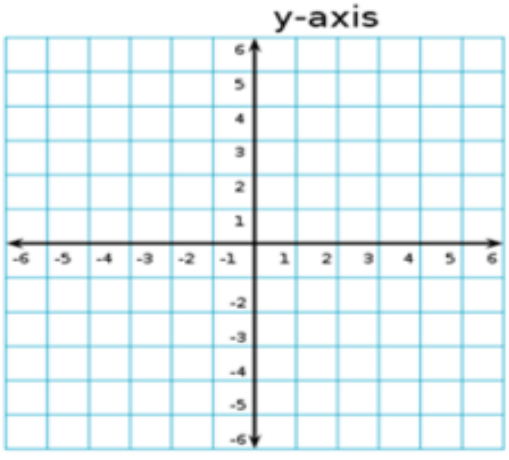
B (4, 4)

C (-1, 2)

D (-2, -3)

E (2. -5) Join E back to A

What is the name of this shape?



Question 2

Plot the following co-ordinates on your grid. (remember to use a ruler!)

A (3, 5)

B (0, 6)

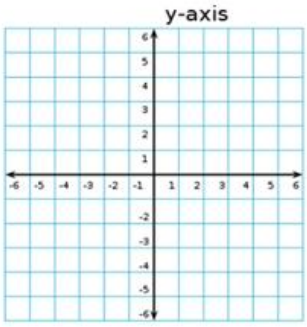
C (-3, 5)

D (0, -5) Join D back to A

What is the name of this quadrilateral? _____

WC 06.07.2020

Positional Direction



Plot the following co-ordinates on your grid. (remember to use a ruler!)

A (-2, 5) B (2, 5)

C (4, 3) D (4, -1)

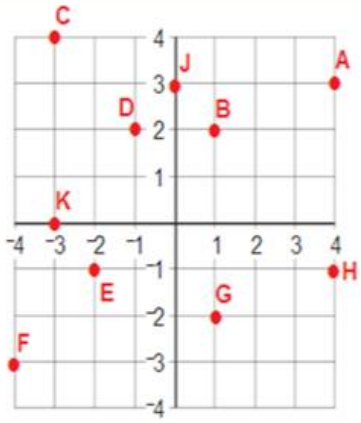
E (2, -5) F (-2, -5)

G (-4, -1) H (-4, 3)

Join H to A

What is the name of this shape?

_____



Write in the coordinates of the points marked -

A is (,) **B** is (,) **C** is (,)

D is (,) **E** is (,) **F** is (,)

G is (,) **H** is (,) **J** is (,)

K is (,)

Mark in these points and their letters -

P at (1, 4) **Q** at (3, 1) **R** at (-3, 2) **S** at (1, -1)

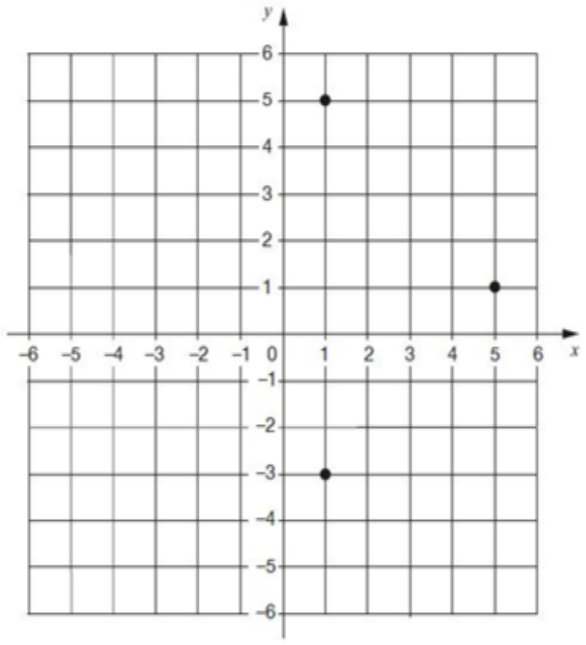
T at (0, -3) **V** at (1, 0) **W** at (-4, 3) **X** at (3, -3)

Y at (-1, -2) **Z** at (-2, -4)

Challenge

Layla draws a **square** on this coordinate grid.

Three of the vertices are marked.



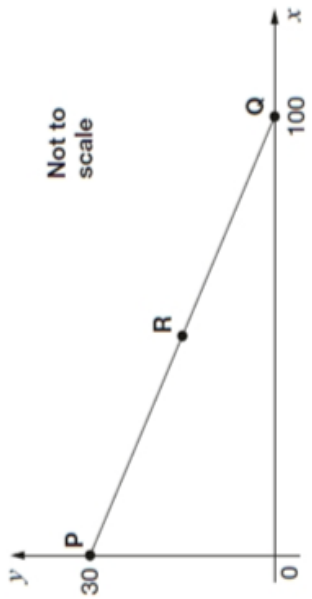
What are the coordinates of the missing vertex?

(,)

Reasoning

In this diagram **R** is an equal distance from **P** and **Q**.

Not to scale



What are the coordinates of **R**?

R = (,)

Purple Mash: Coordinates 2

Rockstars:

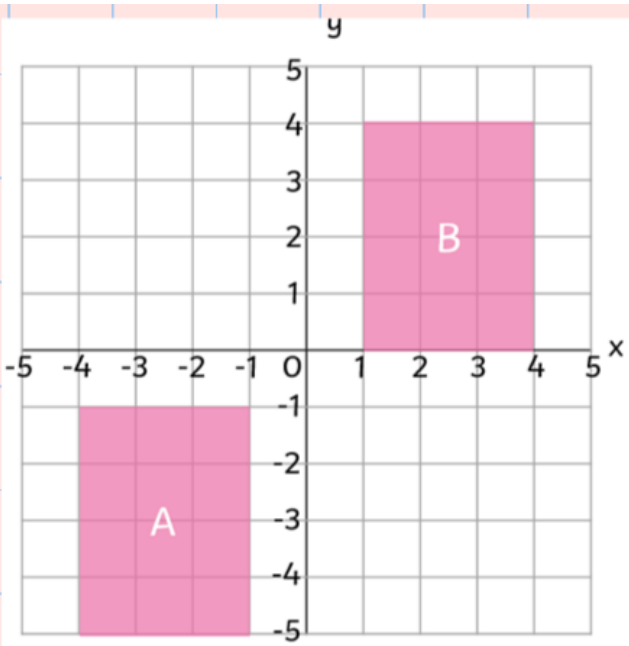
WC 06.07.2020
Positional Direction
Wednesday

LO: Translation

What is a translation?

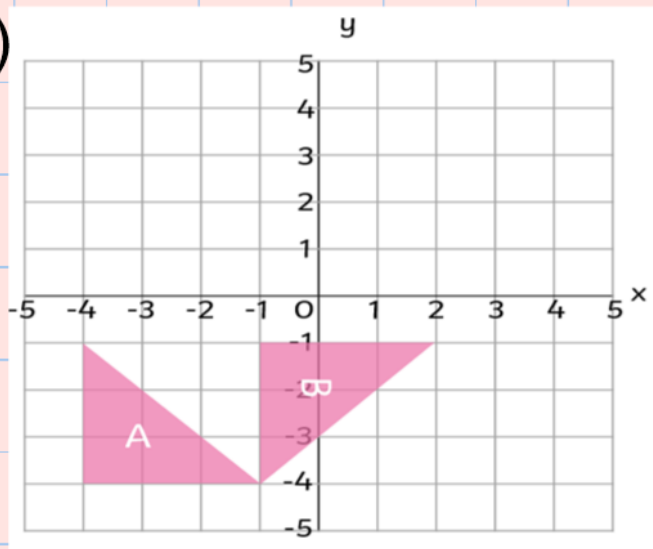
A translation is when a shape moves from one position to another without being rotated or flipped.

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



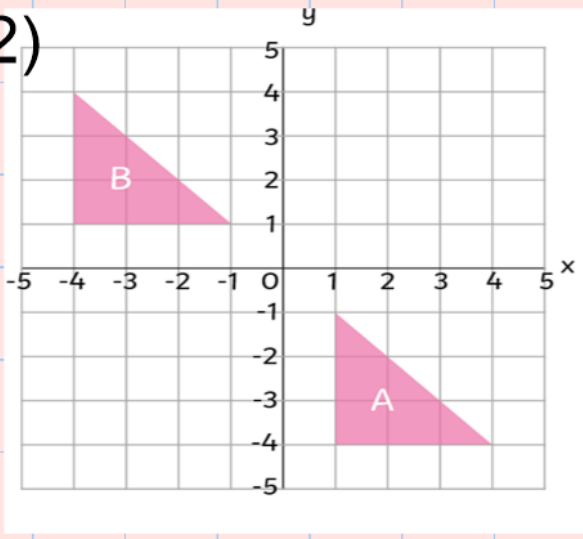
Which one is a translation?

1)



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

2)



Yes. This is a translation.

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Positional Direction

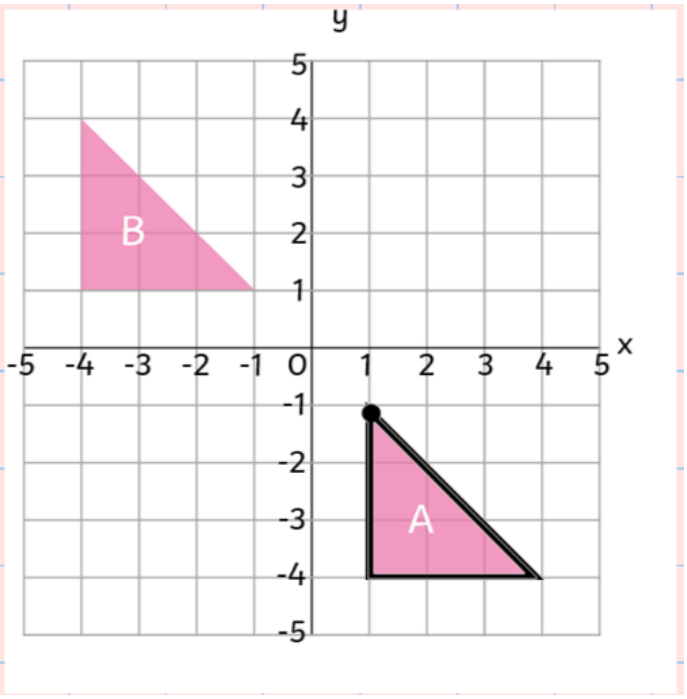
How do we describe a translation?

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.

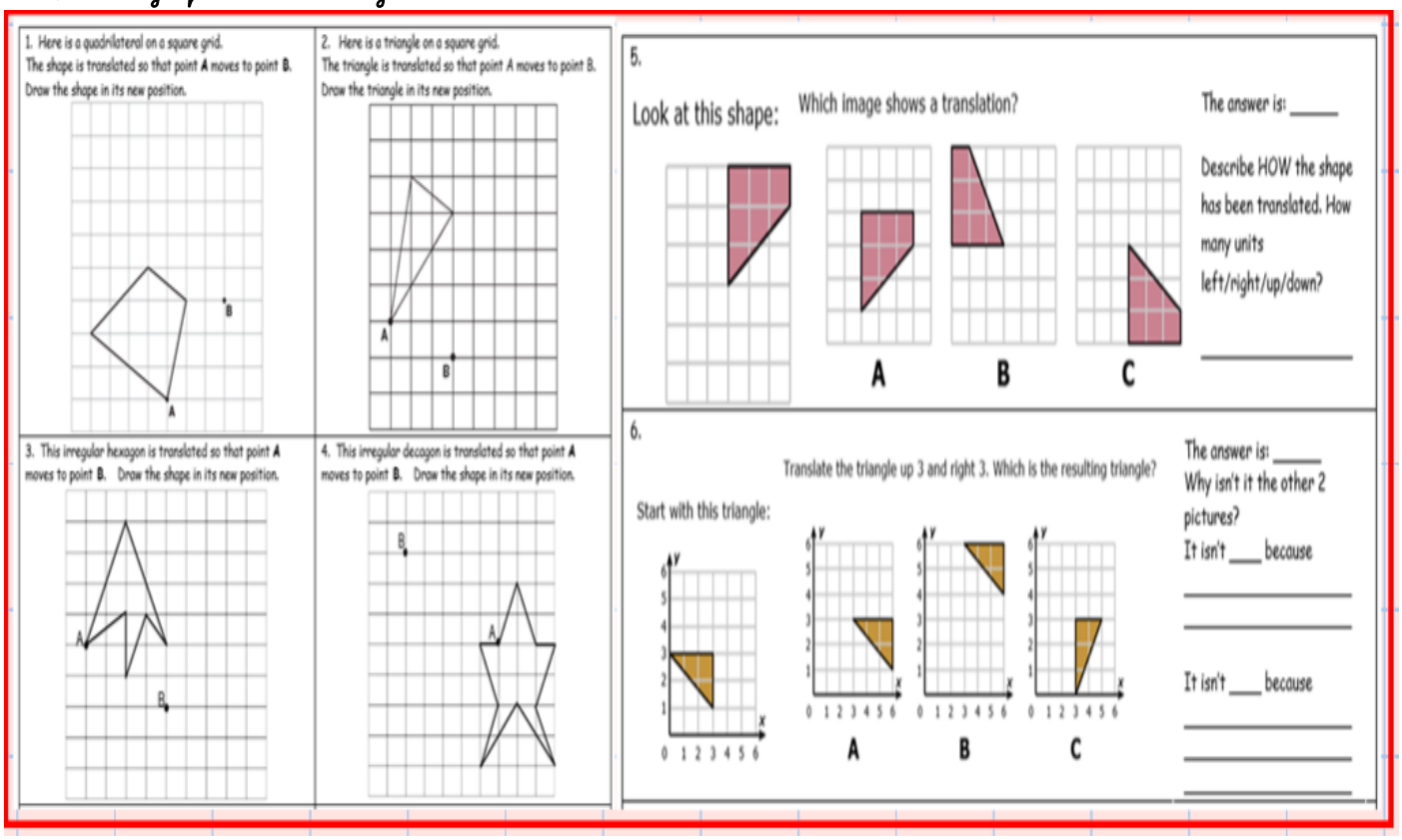
There is a point on (1,-1) to help me translate shape A. **Move triangle A.**

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

What are the coordinates of the black point shown on shape B?



Which set of questions will you solve?



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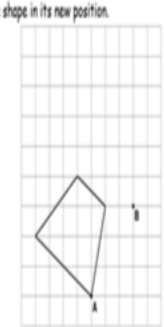
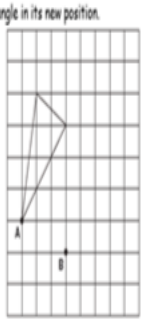
Positional Direction

1. Here is a quadrilateral on a square grid.
The shape is translated so that point A moves to point B.
Draw the shape in its new position.



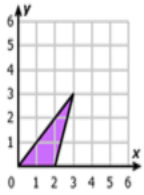
Describe HOW the shape has been translated (units up/down/left/right etc) _____

2. Here is a triangle on a square grid.
The triangle is translated so that point A moves to point B.
Draw the triangle in its new position.



Describe HOW the shape has been translated (units up/down/left/right etc) _____

3.

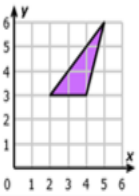


Describe how the triangle on the left, has been translated to create the diagram on the right:

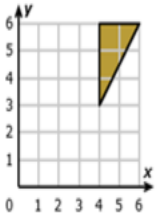
_____

_____

_____



4.

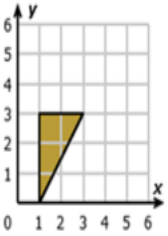


Describe how the triangle on the left, has been translated to create the diagram on the right:

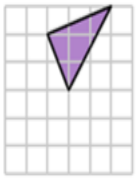
_____

_____

_____



5.

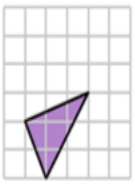


Describe how the triangle on the left, has been translated to create the diagram on the right:

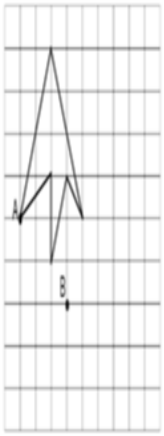
_____

_____

_____

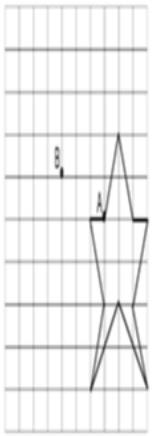


1. This irregular hexagon is translated so that point A moves to point B. Draw the shape in its new position.



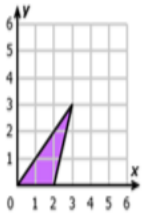
Describe HOW the shape has been translated (units up/down/left/right etc) _____

2. This irregular decagon is translated so that point A moves to point B. Draw the shape in its new position.



Describe HOW the shape has been translated (units up/down/left/right etc) _____

3.

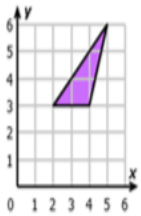


Describe how the triangle on the left, has been translated to create the diagram on the right:

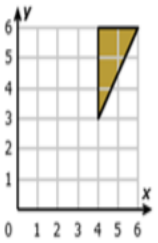
_____

_____

_____



4.

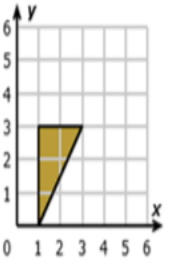


Describe how the triangle on the left, has been translated to create the diagram on the right:

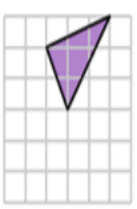
_____

_____

_____



5.

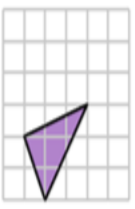


Describe how the triangle on the left, has been translated to create the diagram on the right:

_____

_____

_____

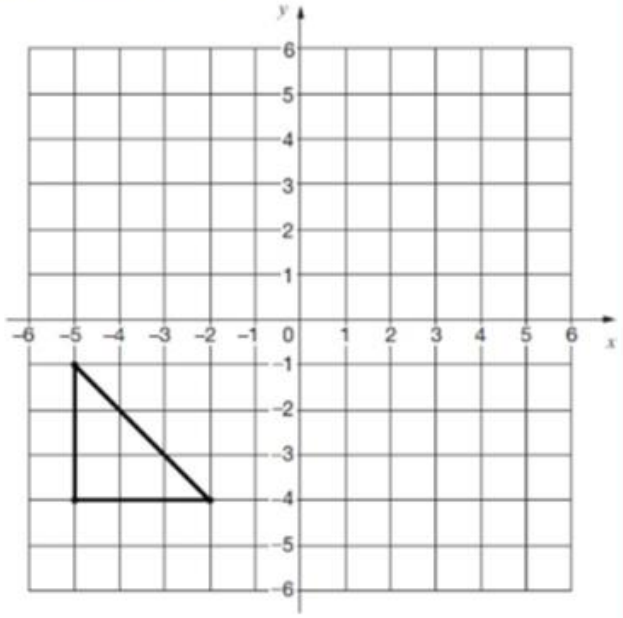


WC 06.07.2020

Positional Direction

Challenge

Here is a triangle drawn on a coordinate grid.

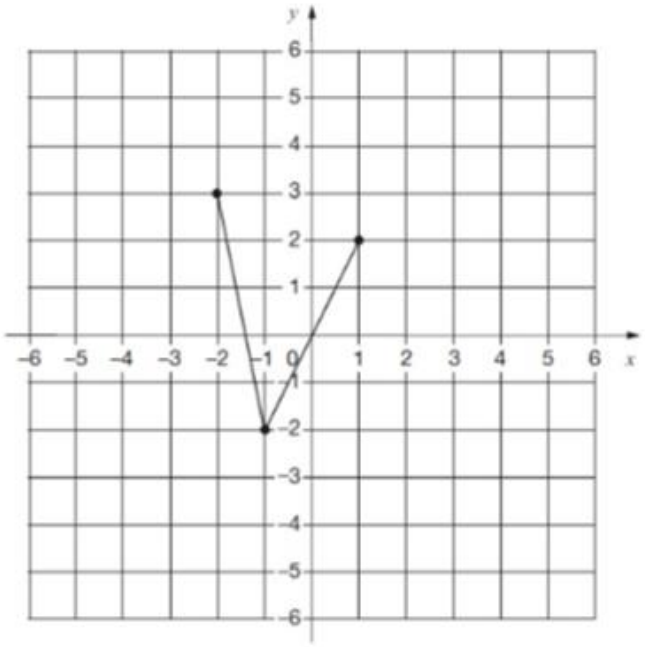


The triangle is translated **7 right** and **5 up**.

Draw the triangle in its new position.

Reasoning

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.

WC 06.07.2020
Positional Direction

Purple Mash: 2Logo
Rockstars

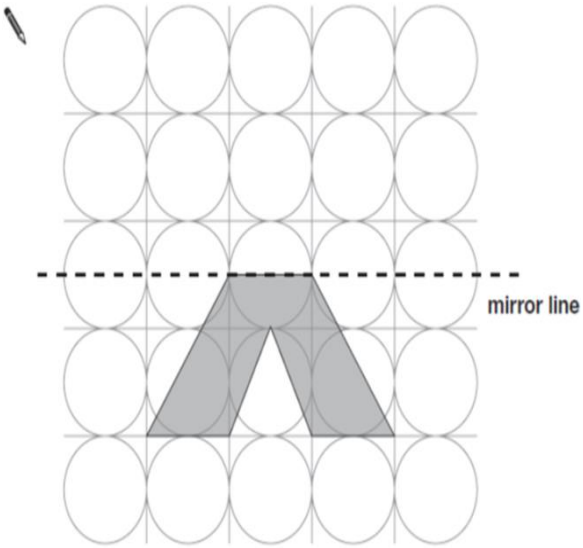
Thursday

LO: Rotation and Reflection

What is a reflection?

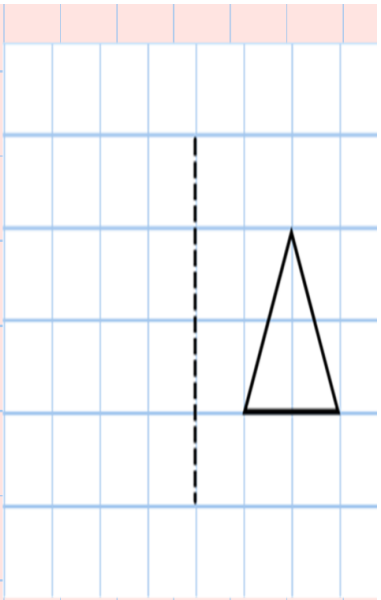
- Is all about looking at it in a mirror.
- If a shape can reflect itself perfectly then we call this a line of symmetry. In other words it's the same shape folded in half and fitting perfectly.
- You can be given a line to reflect a shape over.

Draw the reflection of the shaded shape in the mirror line.



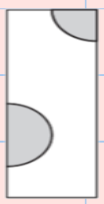
Reflection tips

- The best thing to do for reflection is to count the number of squares from the line each corner (vertices) are and draw a dot.
- All you have to do then is connect the dots on the other side of the line!
- Try this one:

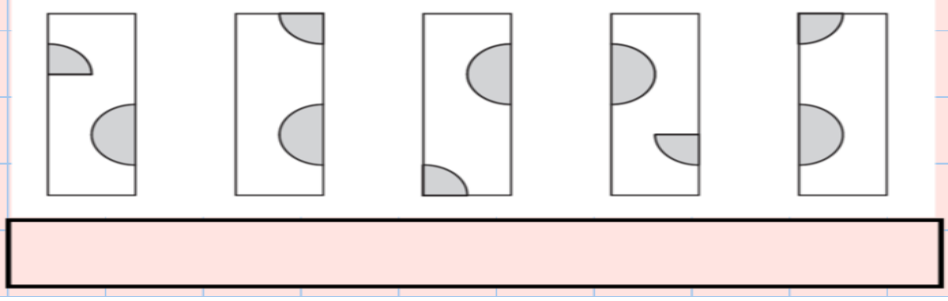


Rotation: A shape can be rotated about a point either clockwise or anti-clockwise.

Here's a shape:



Which one has been rotated?

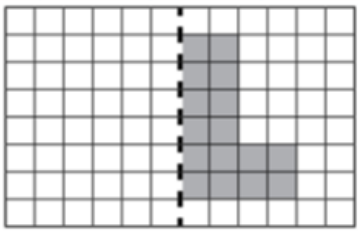


WC 06.07.2020

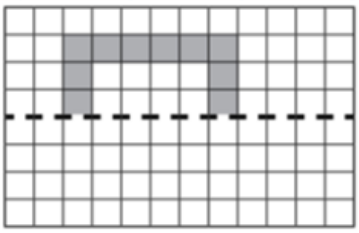
Positional Direction

Which set of questions will you solve?

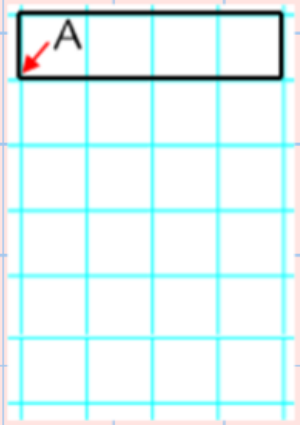
Draw the reflection:

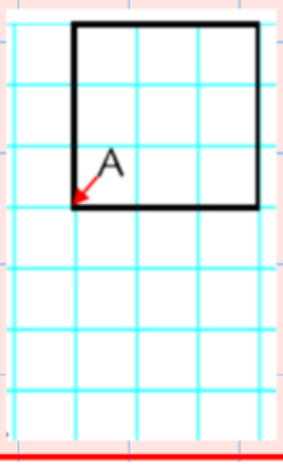
1. 

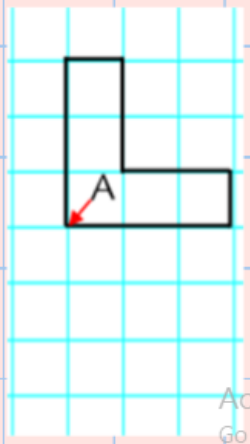
2. 

3. 

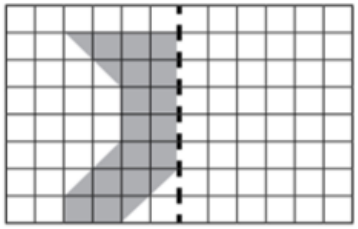
Rotate the shapes 90 degrees clockwise:



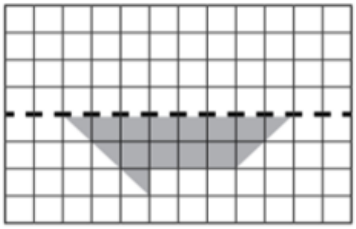




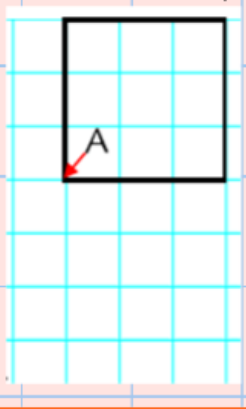
Draw the reflection:

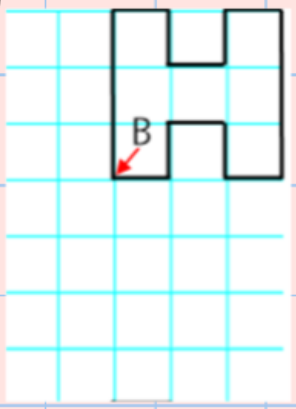
1. 

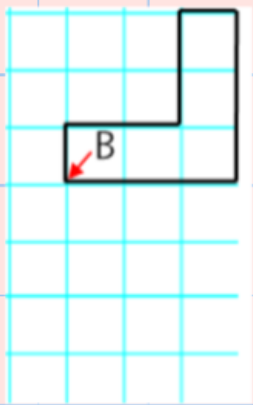
2. 

3. 

Rotate the shape 90 degrees clockwise:





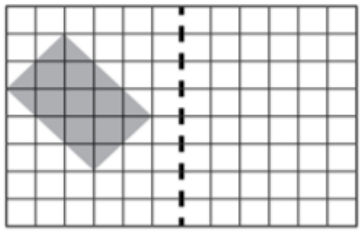


WC 06.07.2020

Positional Direction

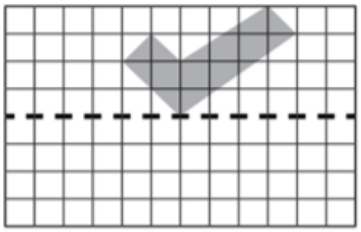
Draw the reflection:

1.

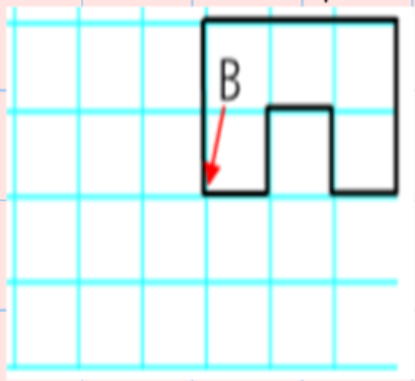


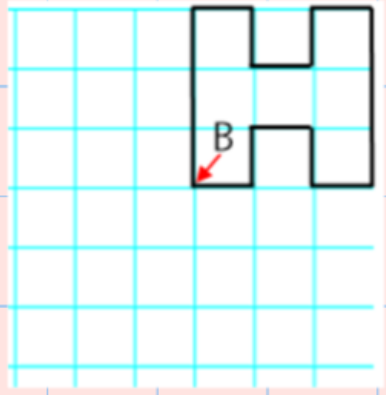
2.

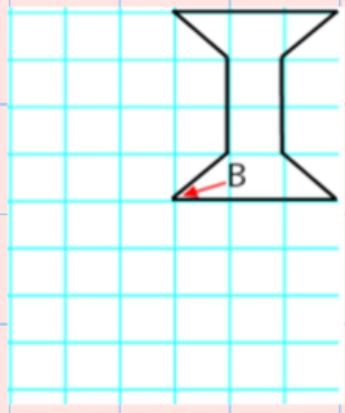
3.



Rotate the shapes 180 degrees clockwise:

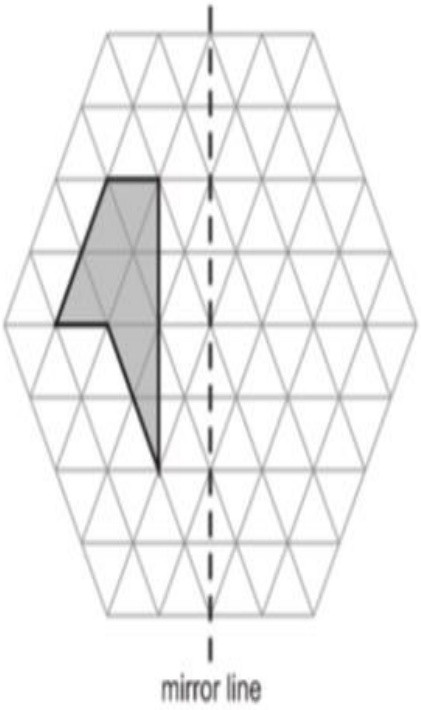






Challenge:

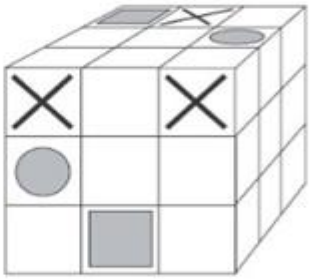
Draw the reflection of the shaded shape in the mirror line.



Reasoning

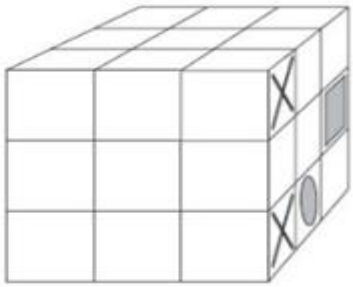
Cubes have been stuck together to make this block.

The block has a pattern on two faces.



The block is turned to the position below.

Draw the missing parts of the pattern on it.



PurpleMash: Reflections

Rockstars

WC 06.07.2020
Positional Direction

Friday

LO: Arithmetic

1) 444,444 − 10,000 − 10,000 =

2) 40,915 + 8,998 =

3) ? + 20,002 = 33,333

4) −25 + 46 =

5) 6,973 × 3

6) 900,202 − 88,890

7) 6,280 ÷ 9 =

8) 90 × 900=

9) 4,000 ÷ 800 =

10) 12 × 50 × 20 =

11) 25,000 ÷ 50 =

12) 3,500 ÷ 50 + 150 =

13) 154.6 + 8.467 =

14) 87.62 × 8

15) $11^2 + 6^2 - 4^3$ =

16) 40 + 7 × 40 =

17) 555,005 + 55,005 =

18) 817.02 − 59.8 =

19) 0.08 × 9 =

20) 100,101 − 9 =

Challenge

In the circle write +, –, ×, or ÷ to make the calculation correct.

18 ◯ 3 × 5 = 30

Reasoning

5,542 ÷ 17 = 326

Explain how you can use this fact to find the answer to 18 × 326

Purple Mash: Estimations and My Dice Game

Rockstars