Reflection and Translation

Week 10 PowerPoint presentation

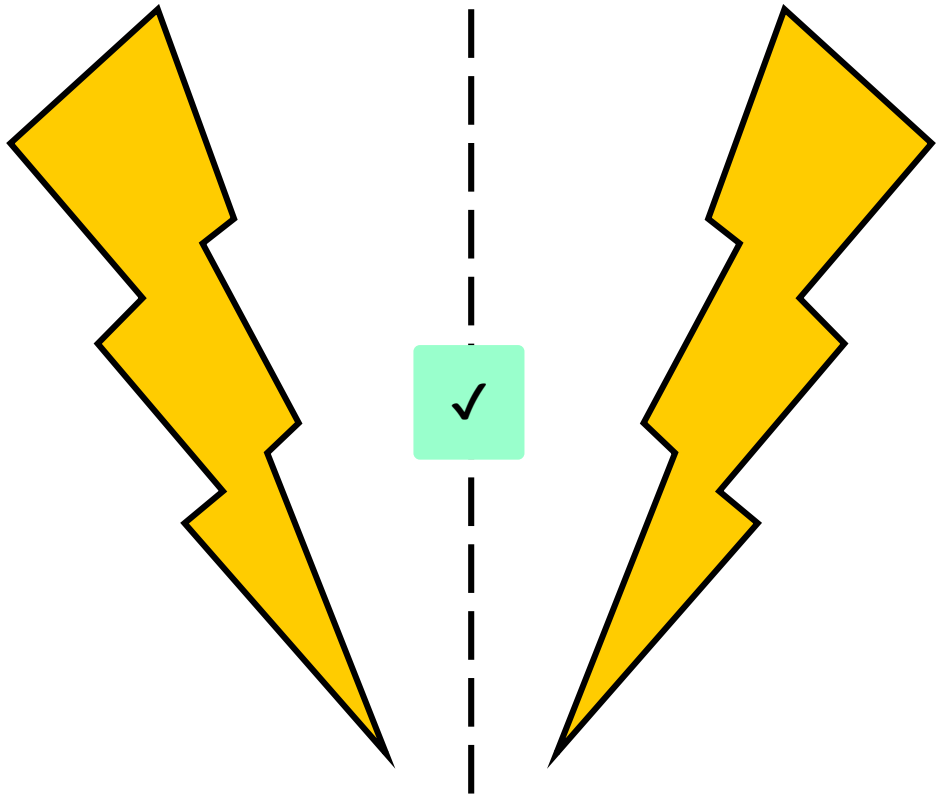
- Shapes can be transformed in a number of ways. These include **translation, rotation and reflection**.

Reflection

If you look in a mirror, you see your own image. You (the object) and your image appear to be the same distance and angle from the mirror. The mirror acts as a line of reflection, through which your image is copied.

Reflection

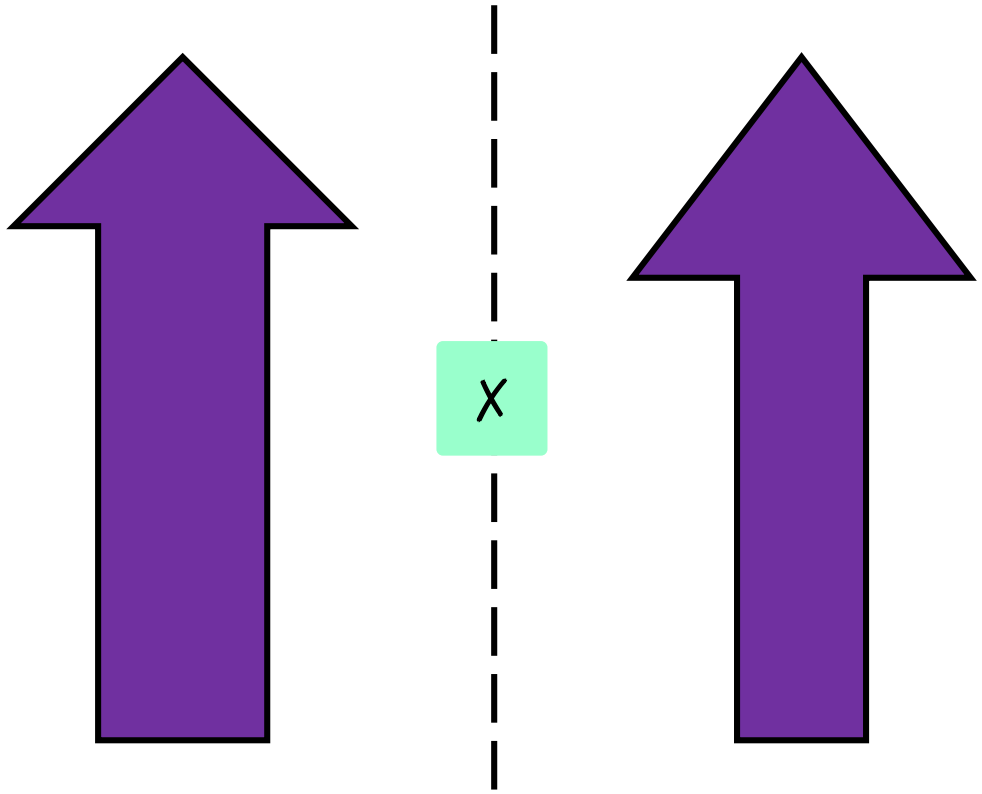
Is this reflection correct?



Hide Answers

Reflection

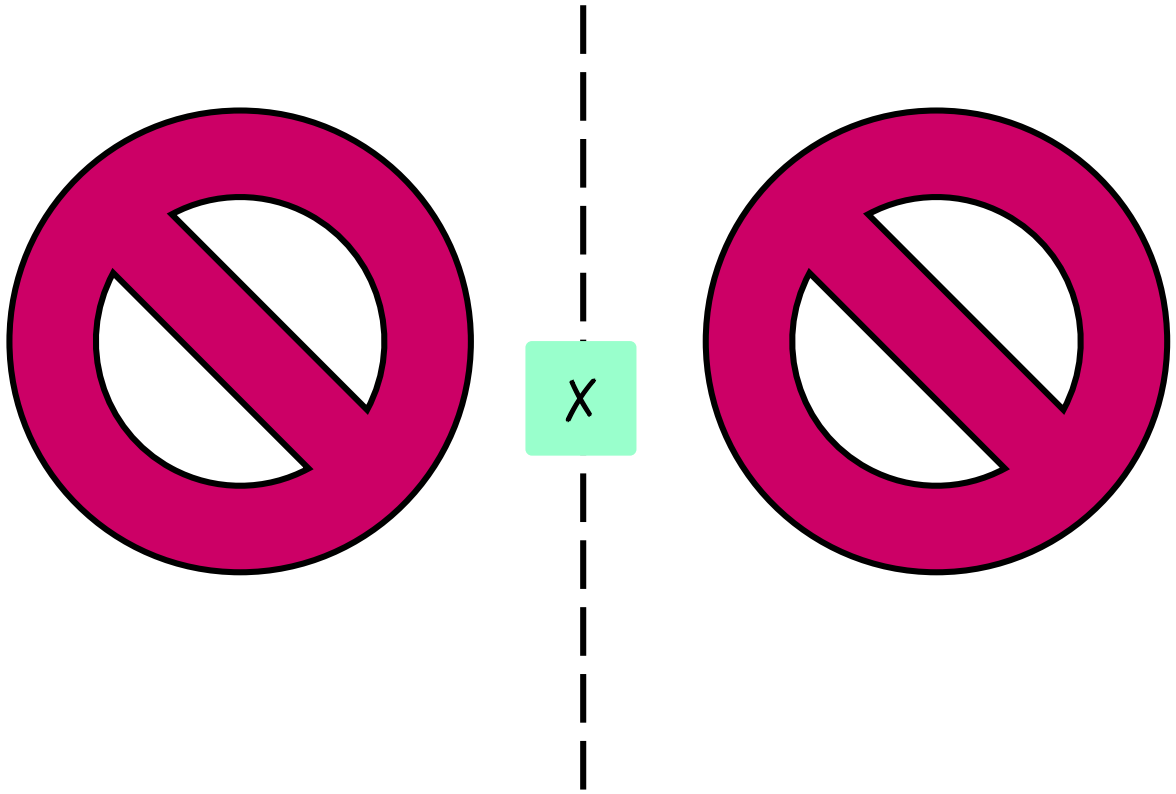
Is this reflection correct?



Hide Answers

Reflection

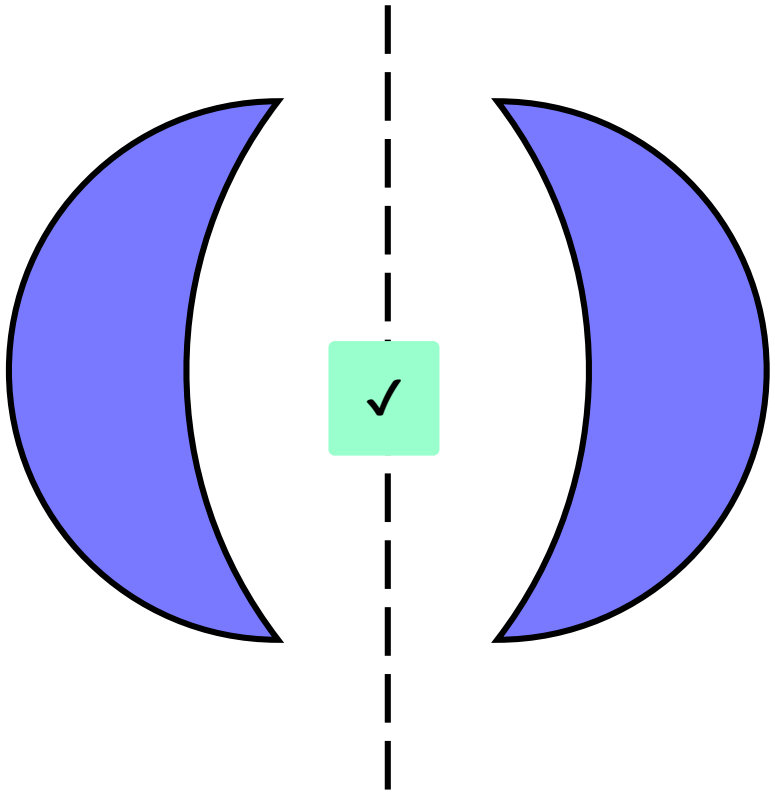
Is this reflection correct?



Hide Answers

Reflection

Is this reflection correct?



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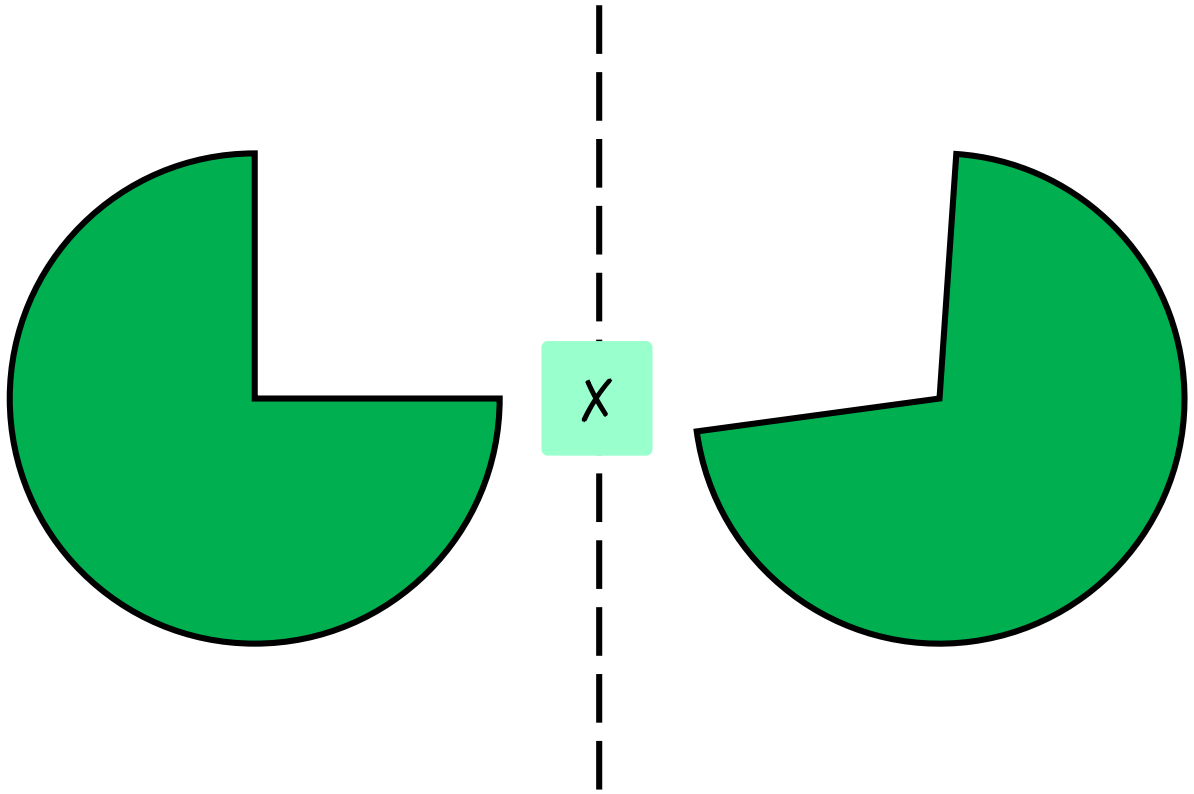
Reflection

Is this reflection correct?



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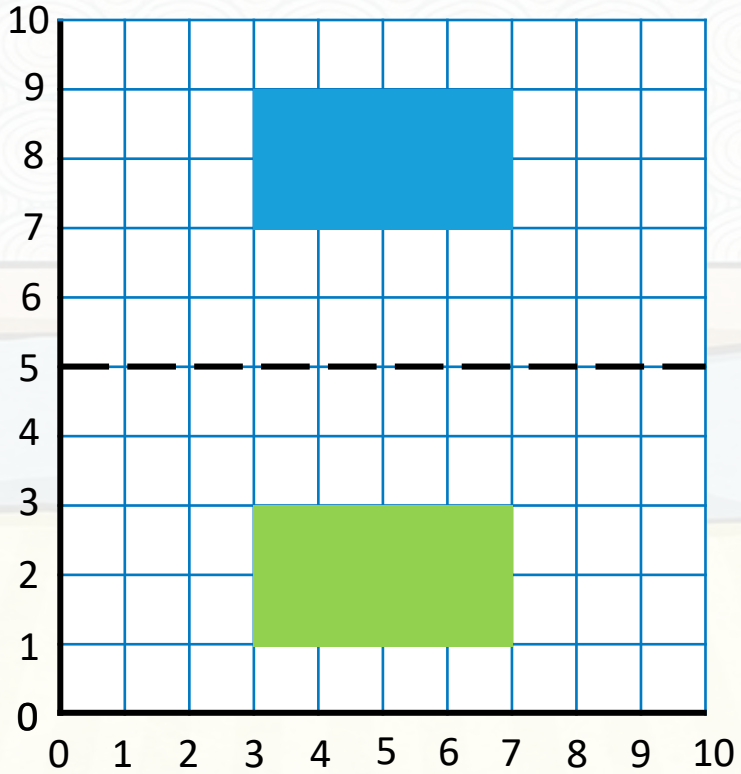
Reflection with Coordinates | **Diving**

Jermaine wants to reflect the blue rectangle in the mirror line.

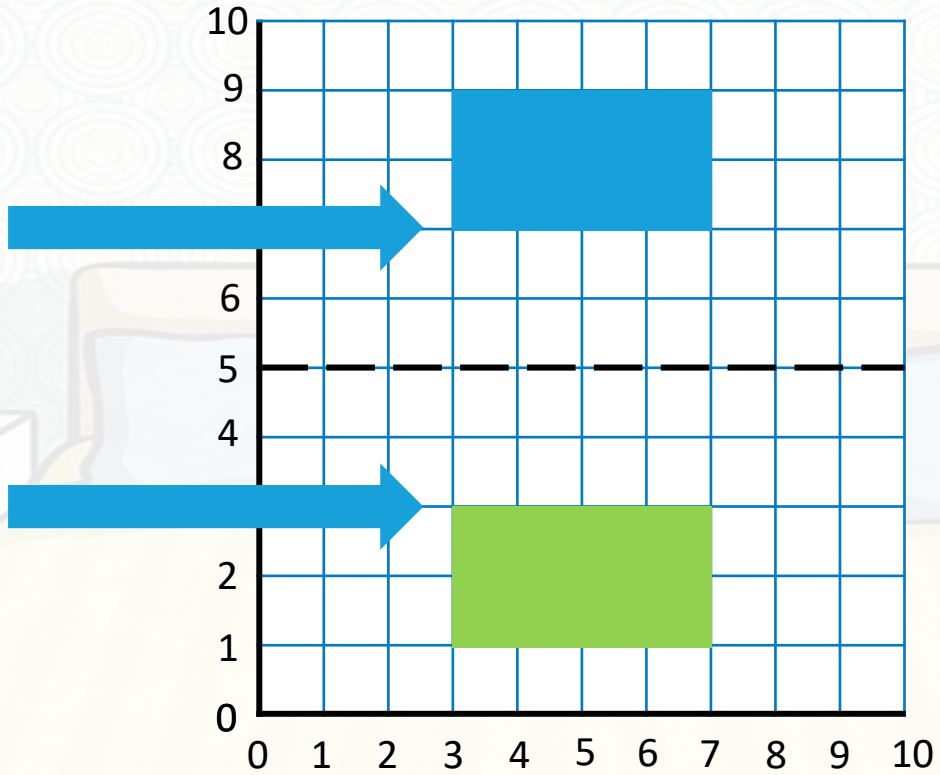
Where will the reflected shape end up?



Reflection with Coordinates **Deeper**

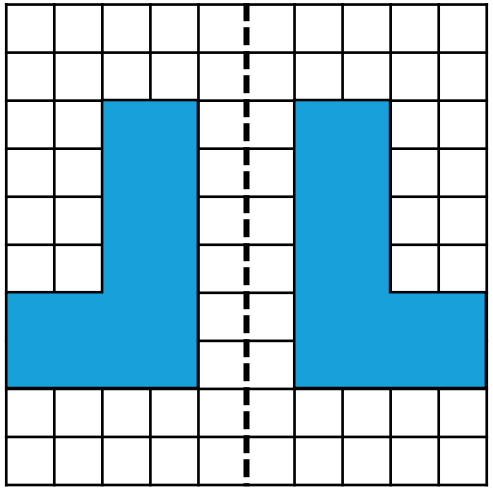
How could you reflect the shape if you didn't have a mirror to hand?

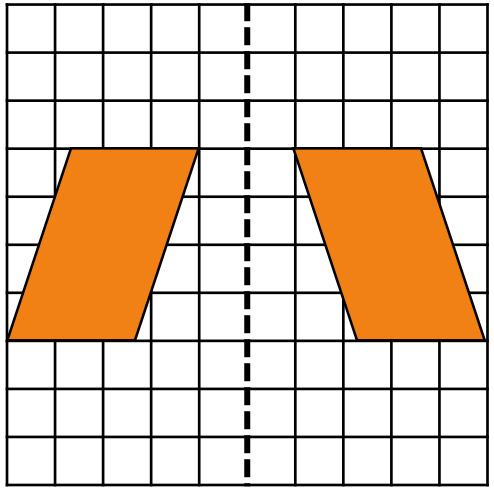
Watch!

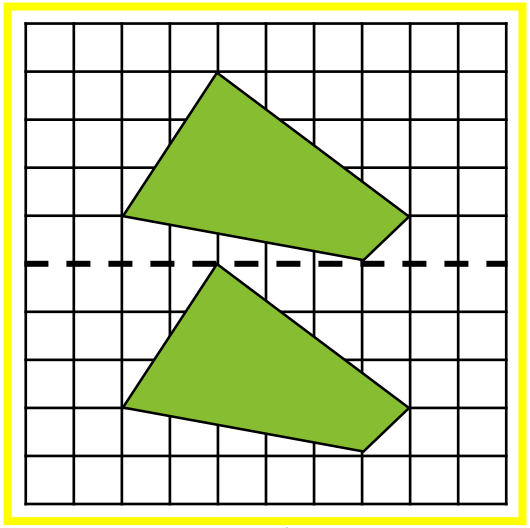


Reflection | **Diving**

Which is the odd one out and why?





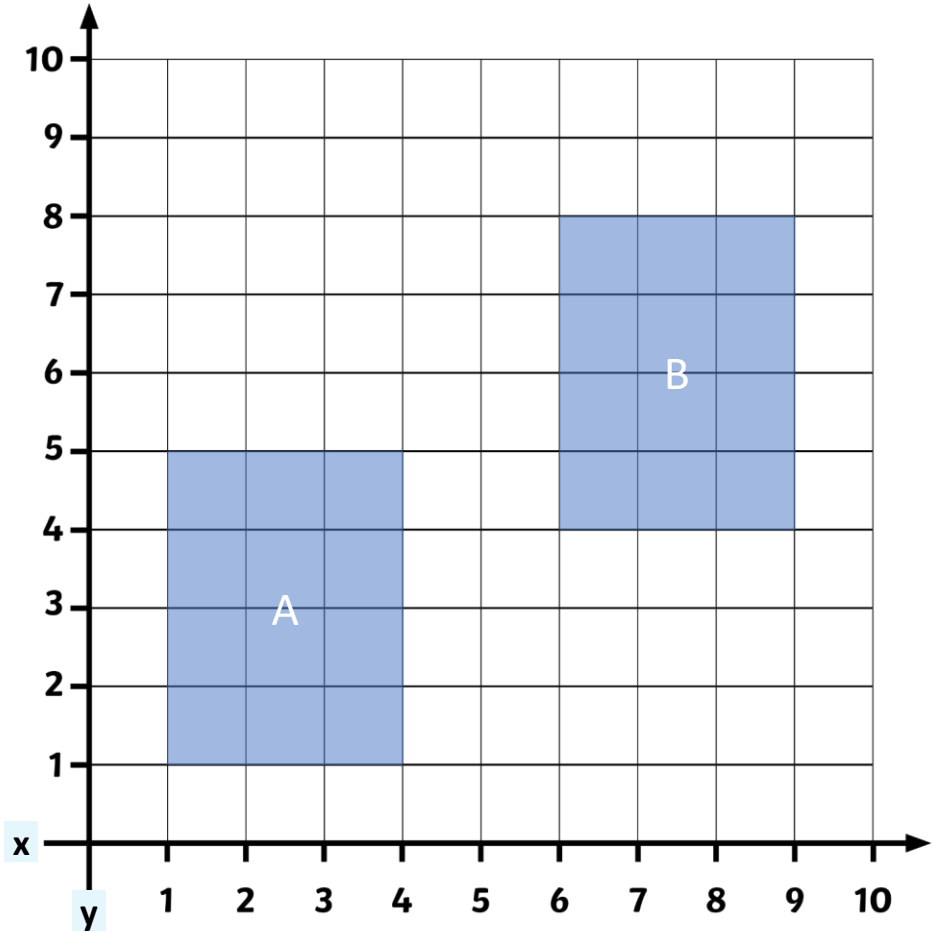


This is the odd one out. The trapezium has not been reflected; it has been *translated.*

What Is a Translation?

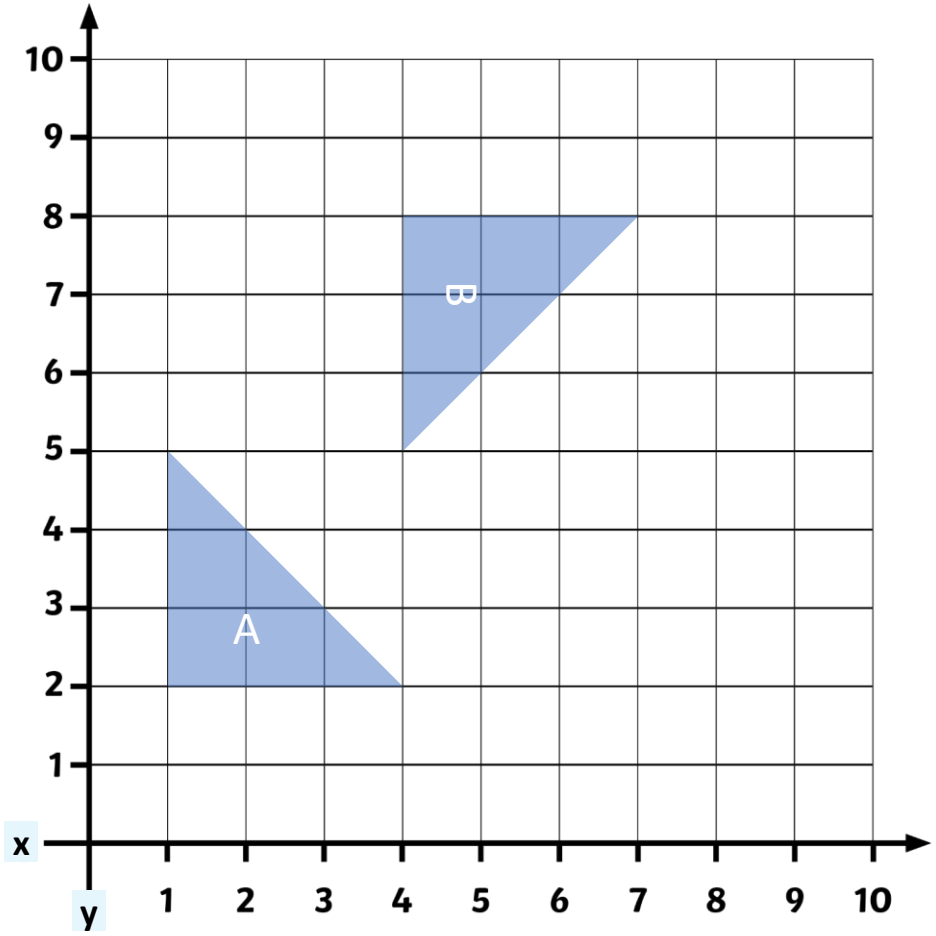
A translation is when a shape **moves from one position to another without being rotated or flipped.**

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



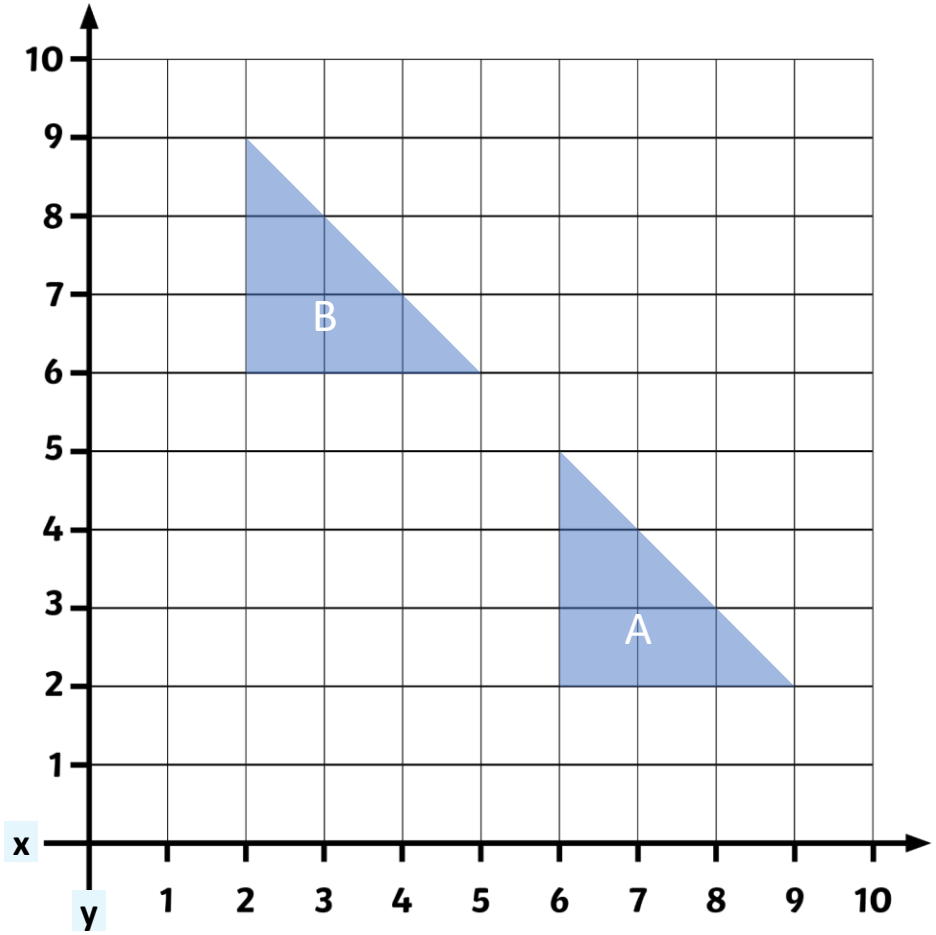
What Is a Translation?

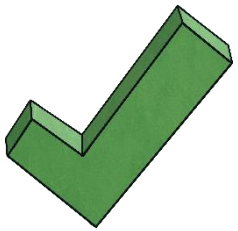
This is **not a translation** because the **shape has been rotated.**



Translating Shapes

Is this a translation?



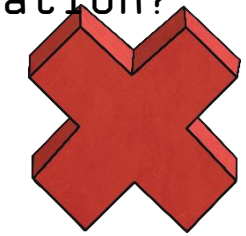


Yes

This is a translation.

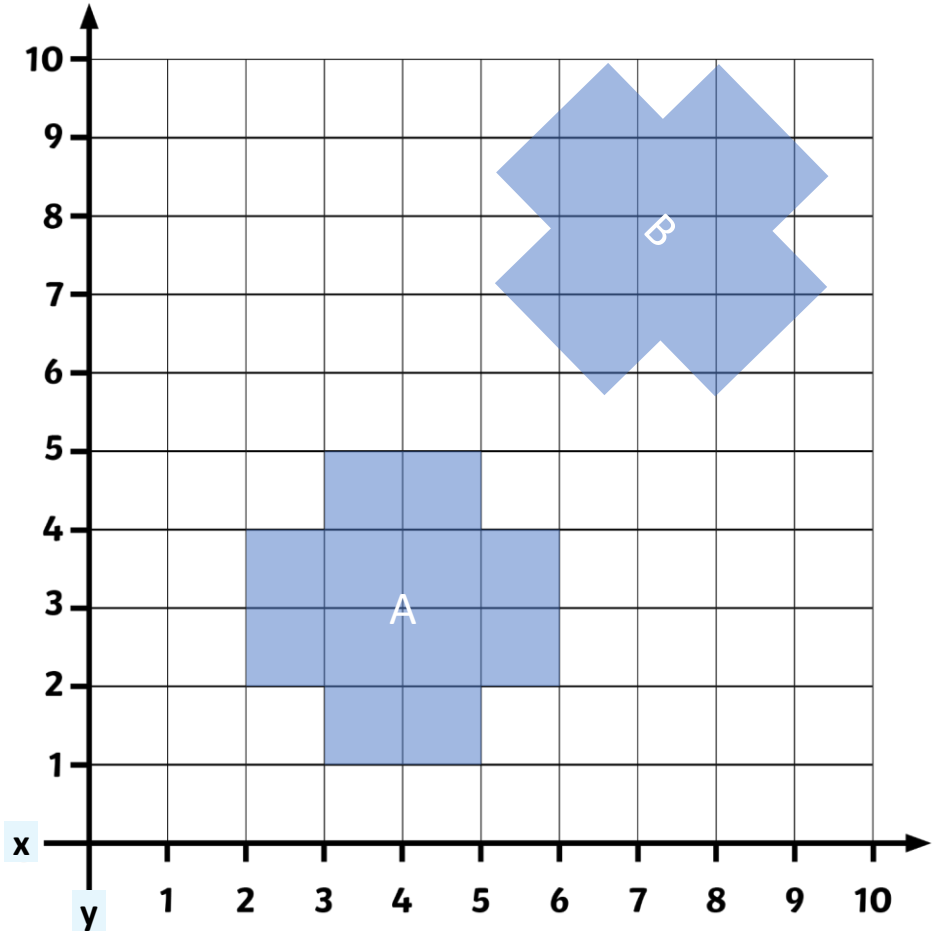
Translating Shapes

Is this a translation?



No

This is not a translation because the shape has been



How Do We Describe a Translation?

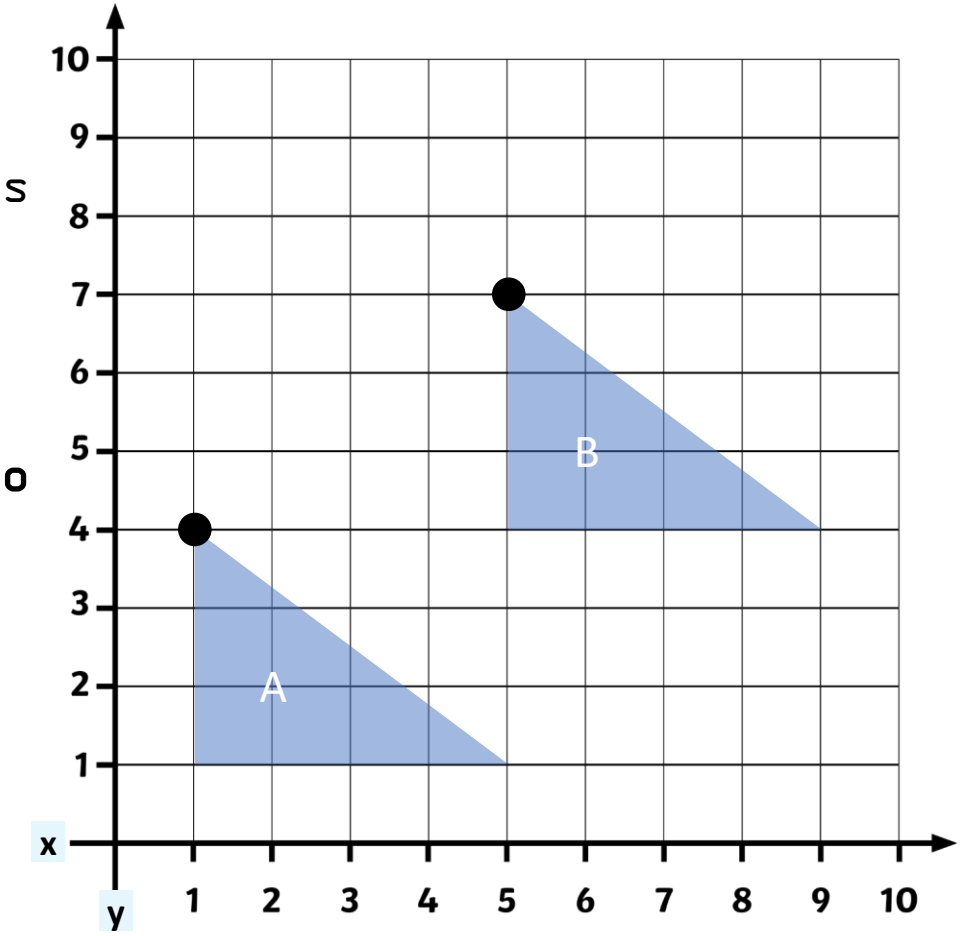
To describe a translation, you have to say how many squares it has moved to the left or right, and how many squares it has moved up or down.

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

The coordinates of the black point on shape A are (1,4).

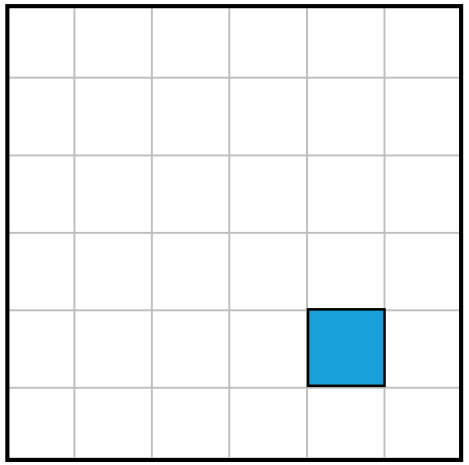
What are the coordinates of the point shown on shape B?

(5,7)

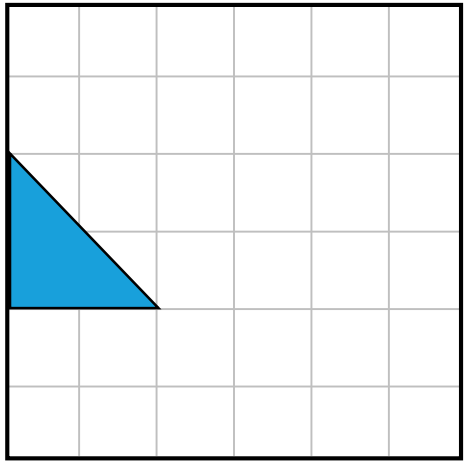


Translate | **Diving**

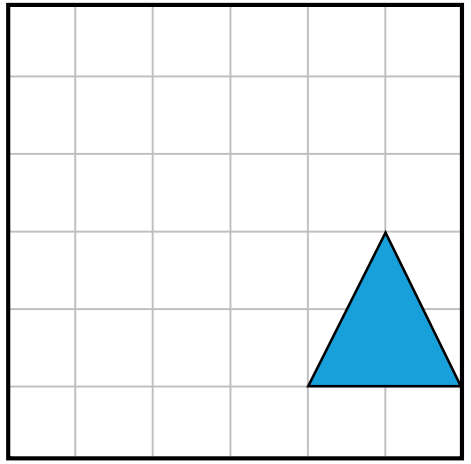
Translate these shapes to their new position.



3 left
2 up



4 right
1 down



4 left
3 up

How Has This Shape Been Translated From A to B?

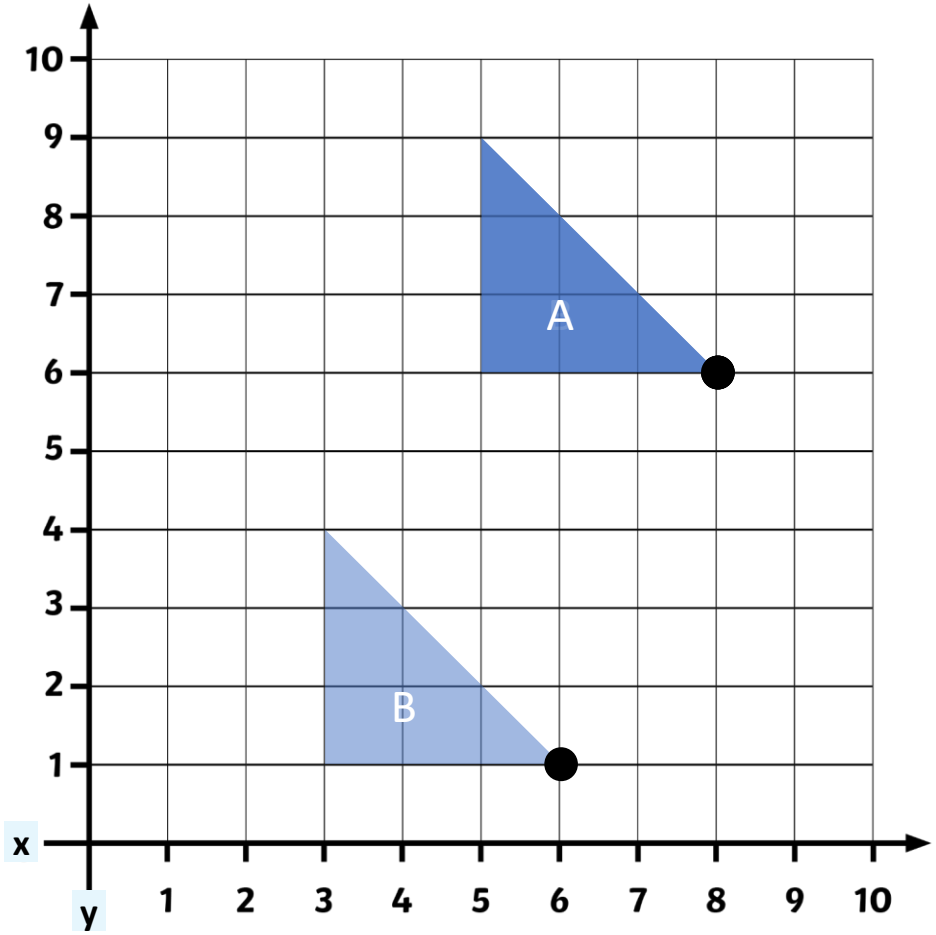
The triangle A has been translated **2 squares to the left** and **5 squares down. Its new position is at triangle B.**

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

(8,6) (6,1)

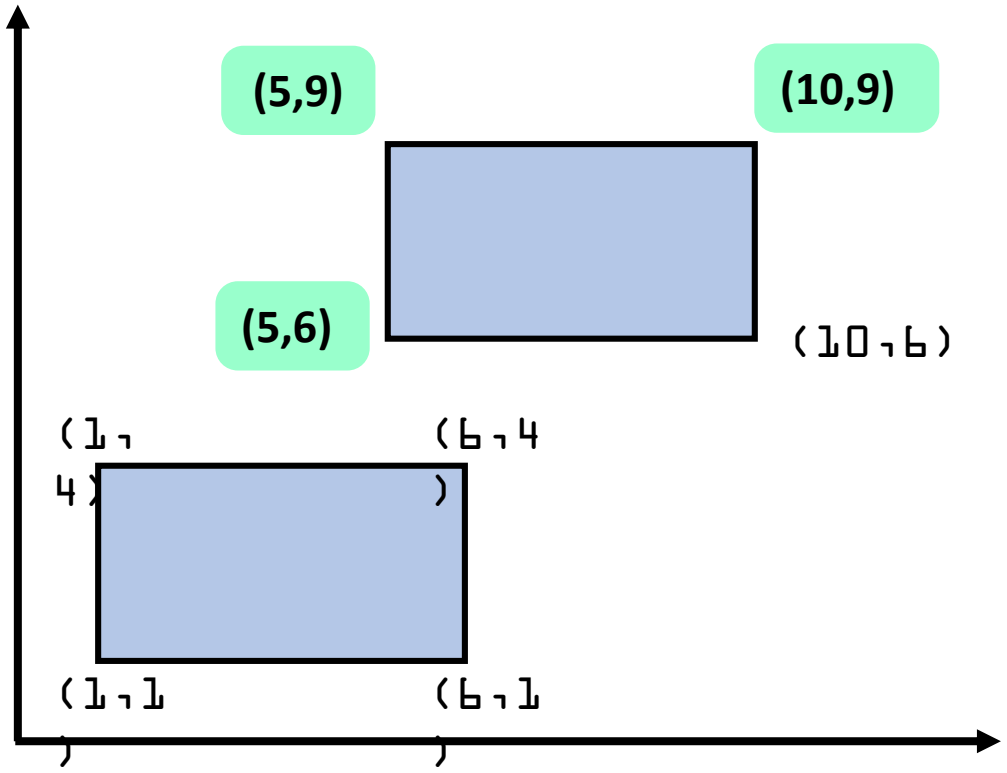
Can you work out all the coordinates of shape B?

(6,1) (3,1) (3,4)



Translation

Can you work out the missing co-ordinates of the translated shape?



Hide Answers

Translation

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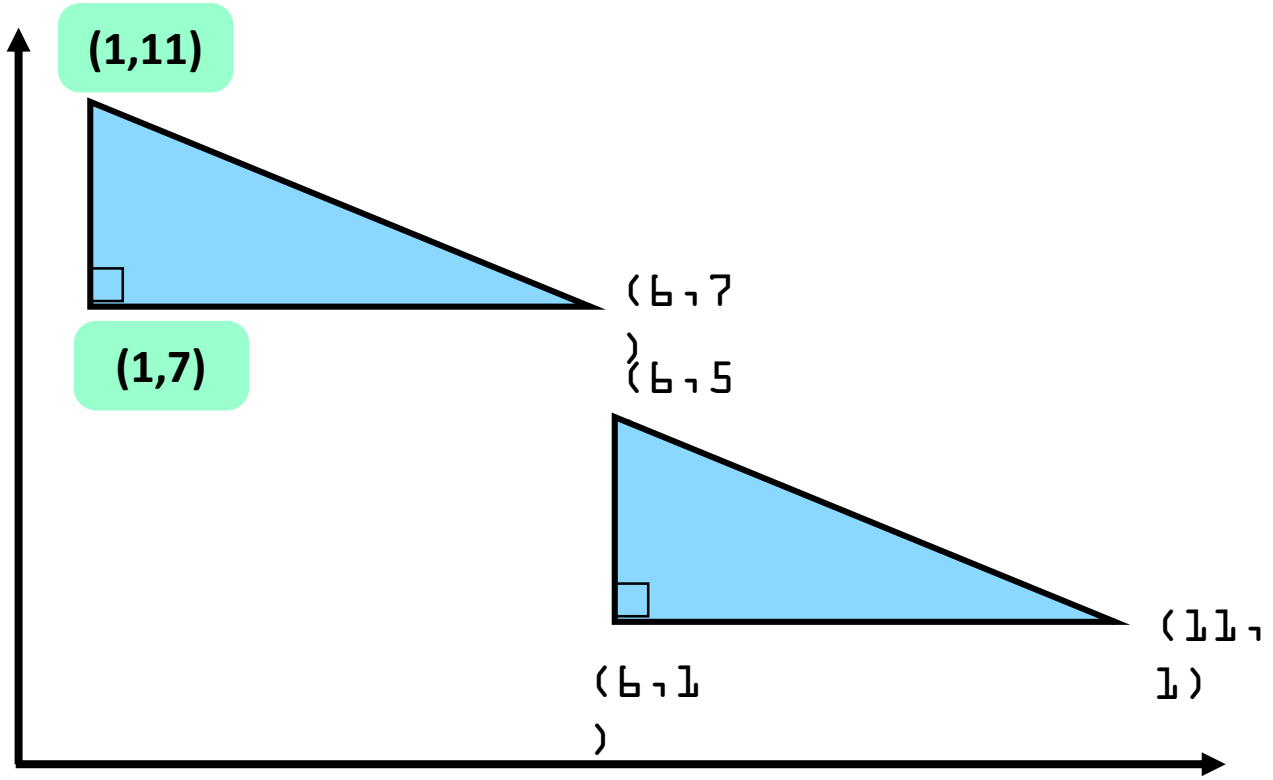

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Well done Year 5s!