

L.O. To describe translations of shapes on a grid

Week 5 - Thursday

Starter – adding and subtracting fractions

1. $\frac{4}{7} + \frac{2}{7} =$

2. $\frac{9}{10} - \frac{5}{10} =$

3. $\frac{3}{12} + \frac{7}{12} =$

4. $\frac{16}{20} - \frac{9}{20} =$

5. $\frac{6}{10} + \frac{7}{10} =$

6. $\frac{15}{9} - \frac{7}{9} =$

Why can't you work out
 $\frac{3}{8} + \frac{2}{5}$?

Starter – adding and subtracting fractions

1. $\frac{4}{7} + \frac{2}{7} = \frac{6}{7}$

2. $\frac{9}{10} - \frac{5}{10} = \frac{4}{10}$

3. $\frac{3}{12} + \frac{7}{12} = \frac{10}{12}$

4. $\frac{16}{20} - \frac{9}{20} = \frac{7}{20}$

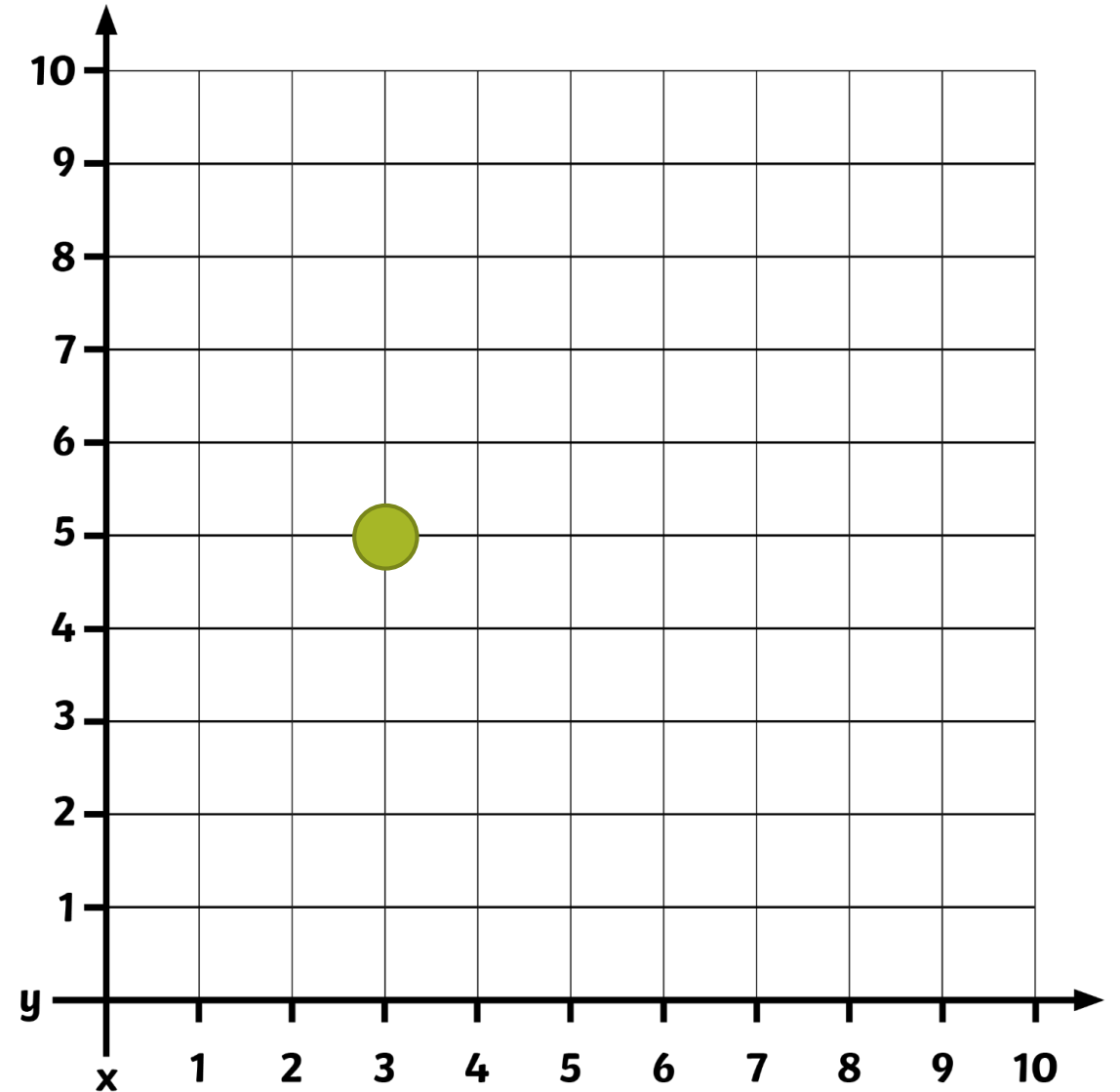
5. $\frac{6}{10} + \frac{7}{10} = \frac{13}{10}$

6. $\frac{15}{9} - \frac{7}{9} = \frac{8}{9}$

Why can't you work out
 $\frac{3}{8} + \frac{2}{5}$?

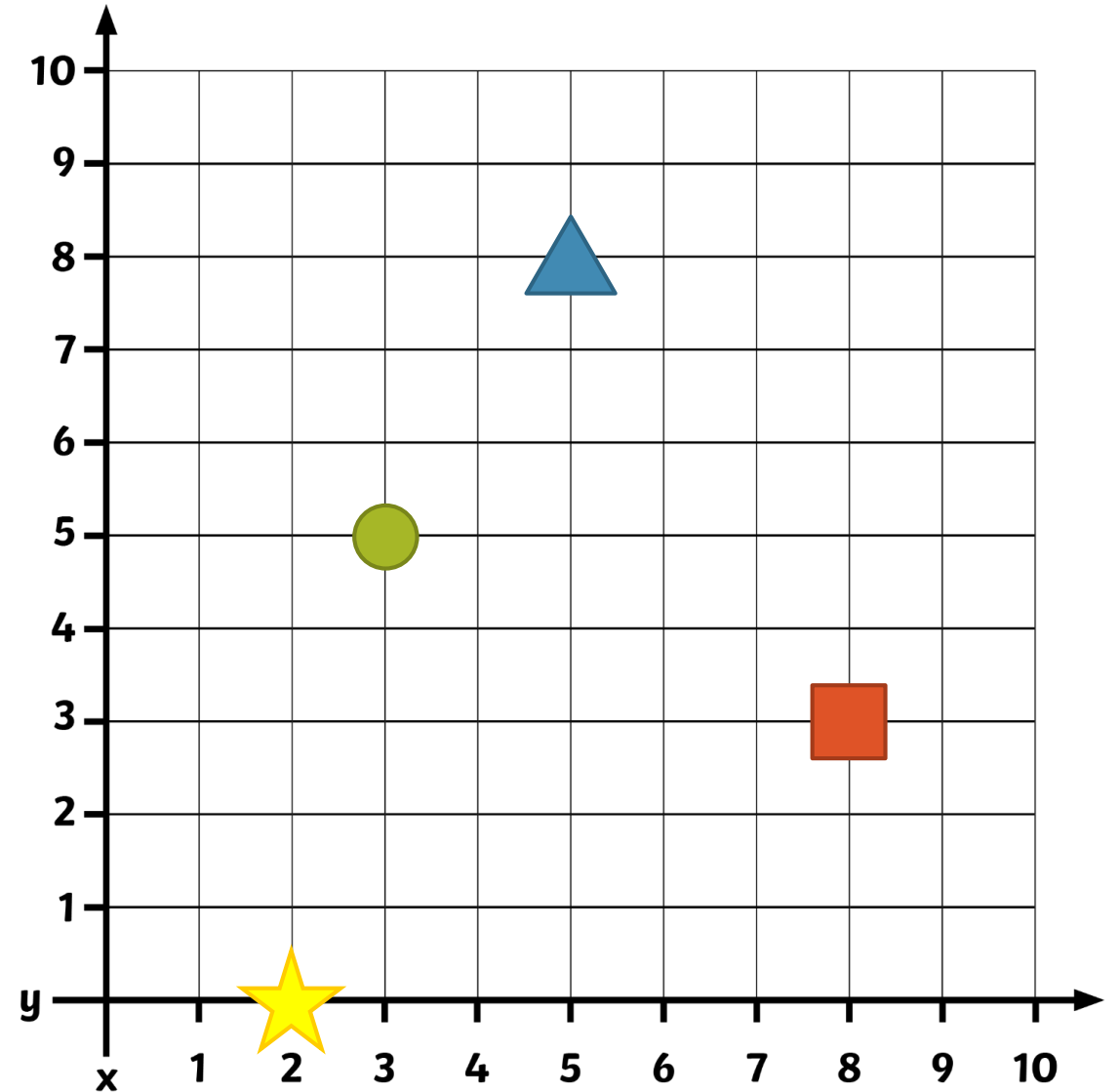
Recap - coordinates

- Coordinates are a way of showing a point's position on a grid.
- We always read the x-axis first and the y-axis second – **along** then **up**
- We can show coordinates like this – (x,y)
- The circle is at $(3,5)$



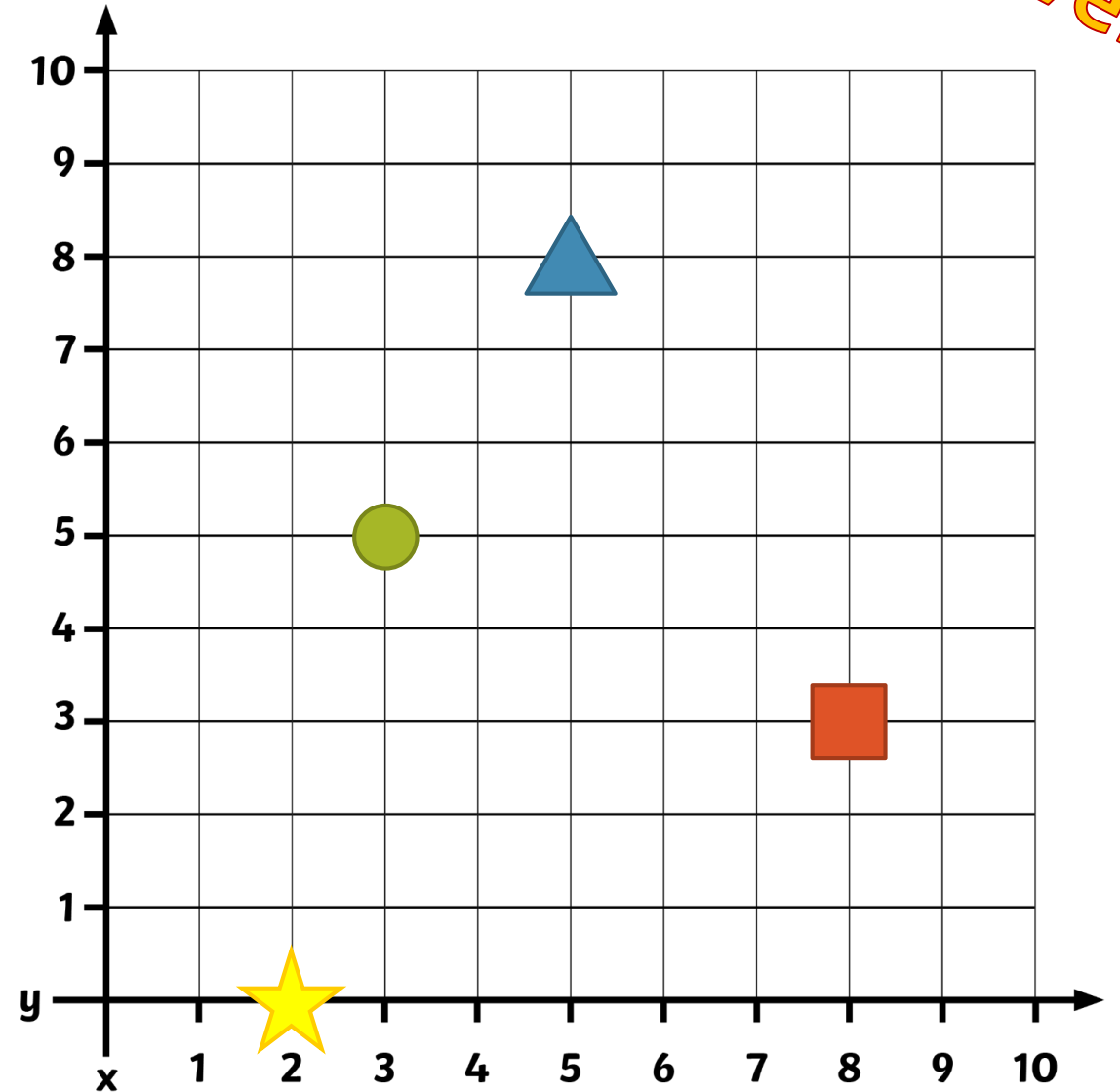
Recap - coordinates

- We can show coordinates like this – (x,y)
- The circle is at $(3,5)$
- Where are the following shapes?
 - Square (,)
 - Triangle (,)
 - Star (,)



Recap - coordinates

- We can show coordinates like this – (x,y)
- The circle is at $(3,5)$
- Where are the following shapes?
 - Square $(8,3)$
 - Triangle $(5,8)$
 - Star $(2,0)$



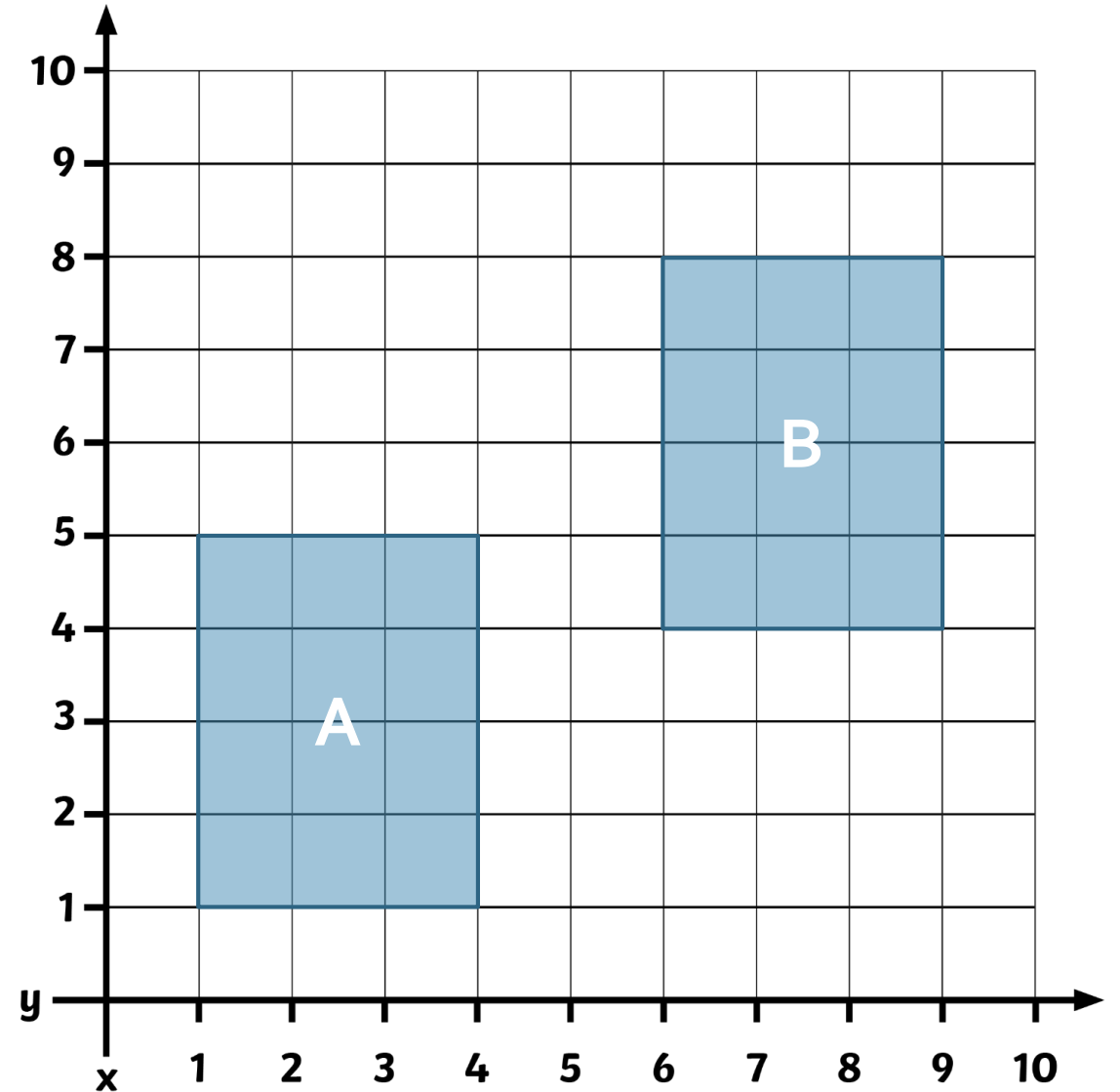
Answer

What does translation mean?

- In maths, translate means **to move**

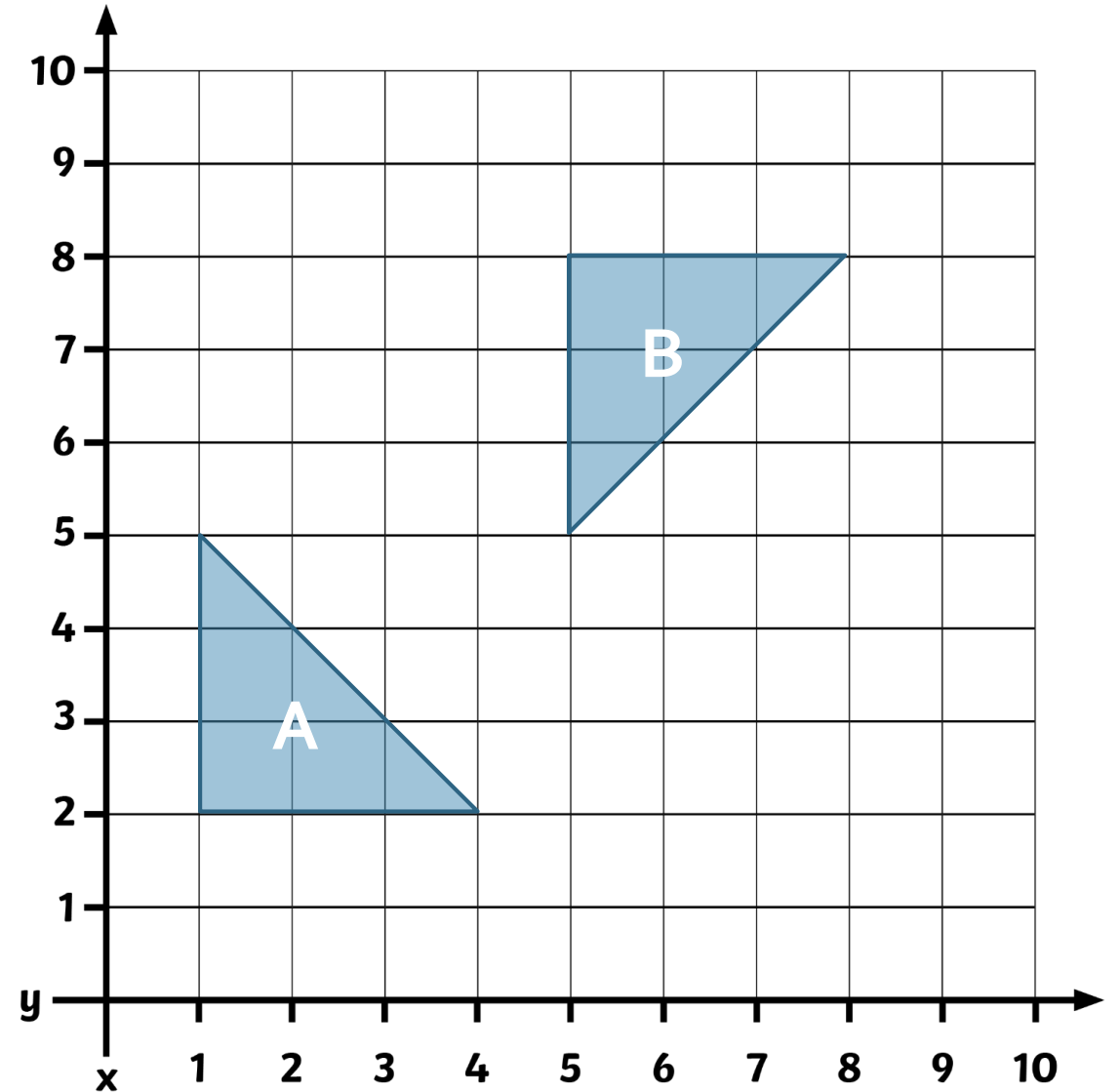
What is translation?

- 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.



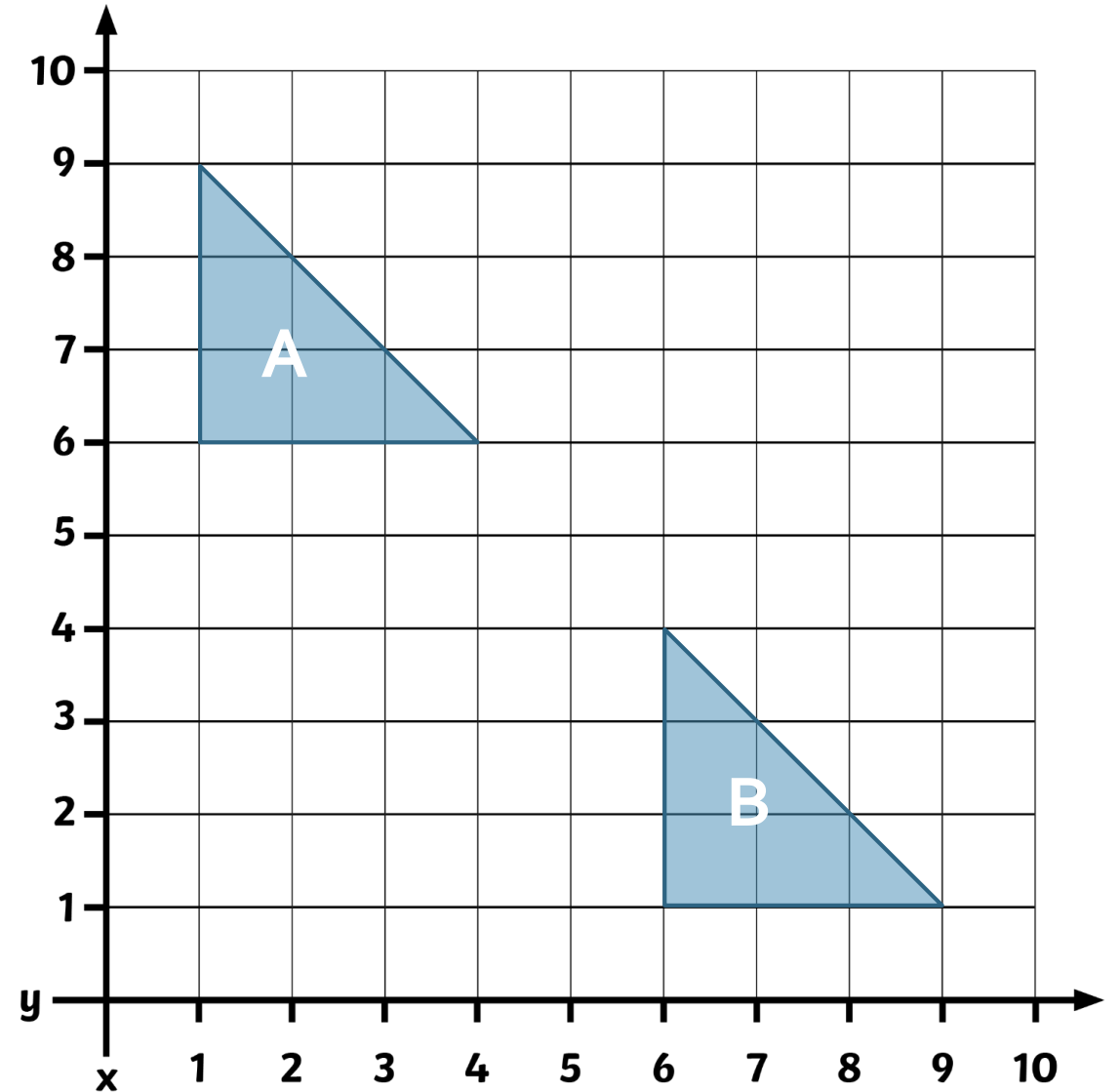
What is translation?

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



Translating shapes

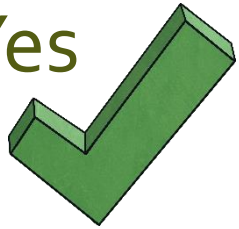
- Is this a translation?
- Explain



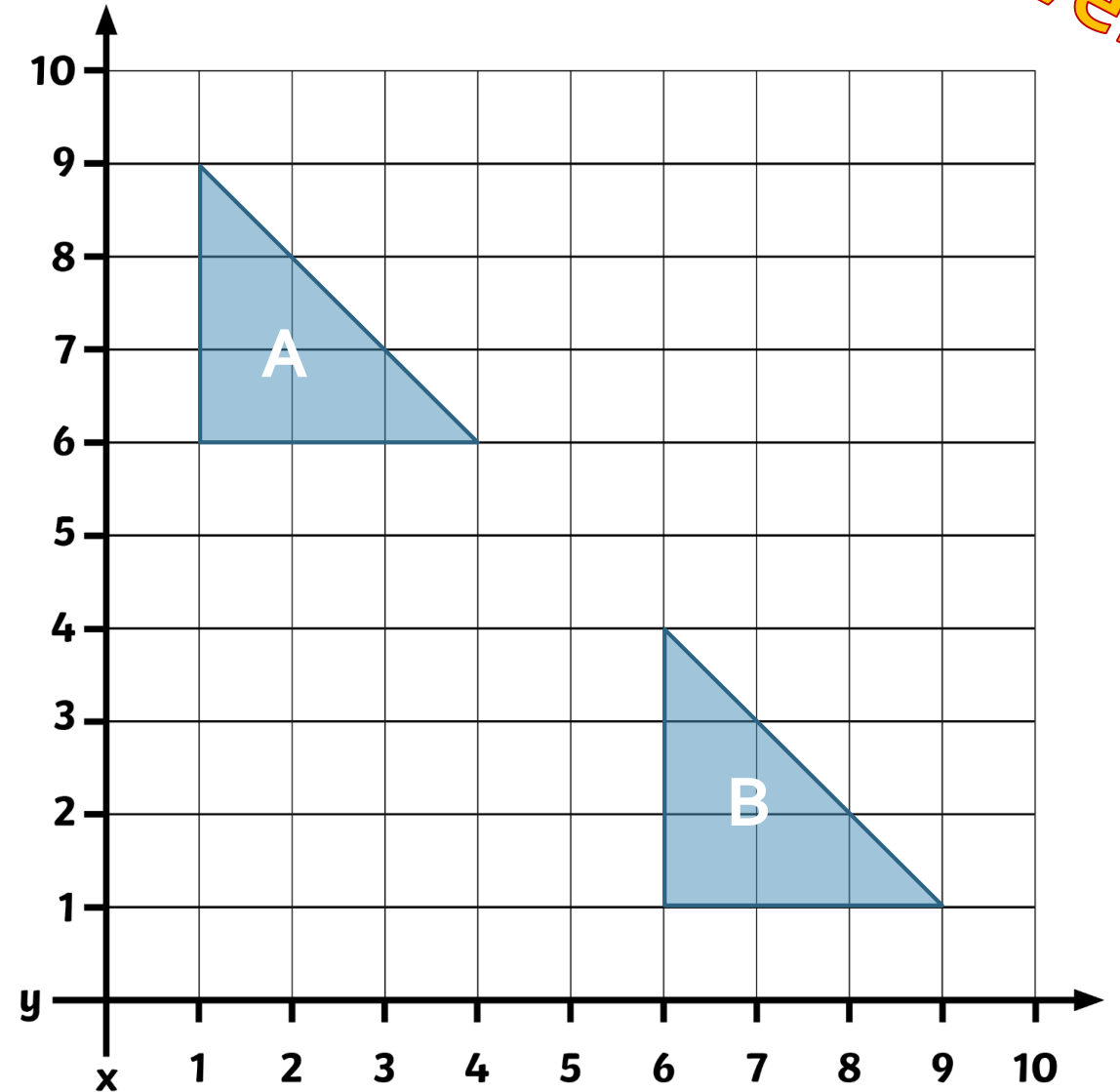
Translating shapes

- Is this a translation?

Yes



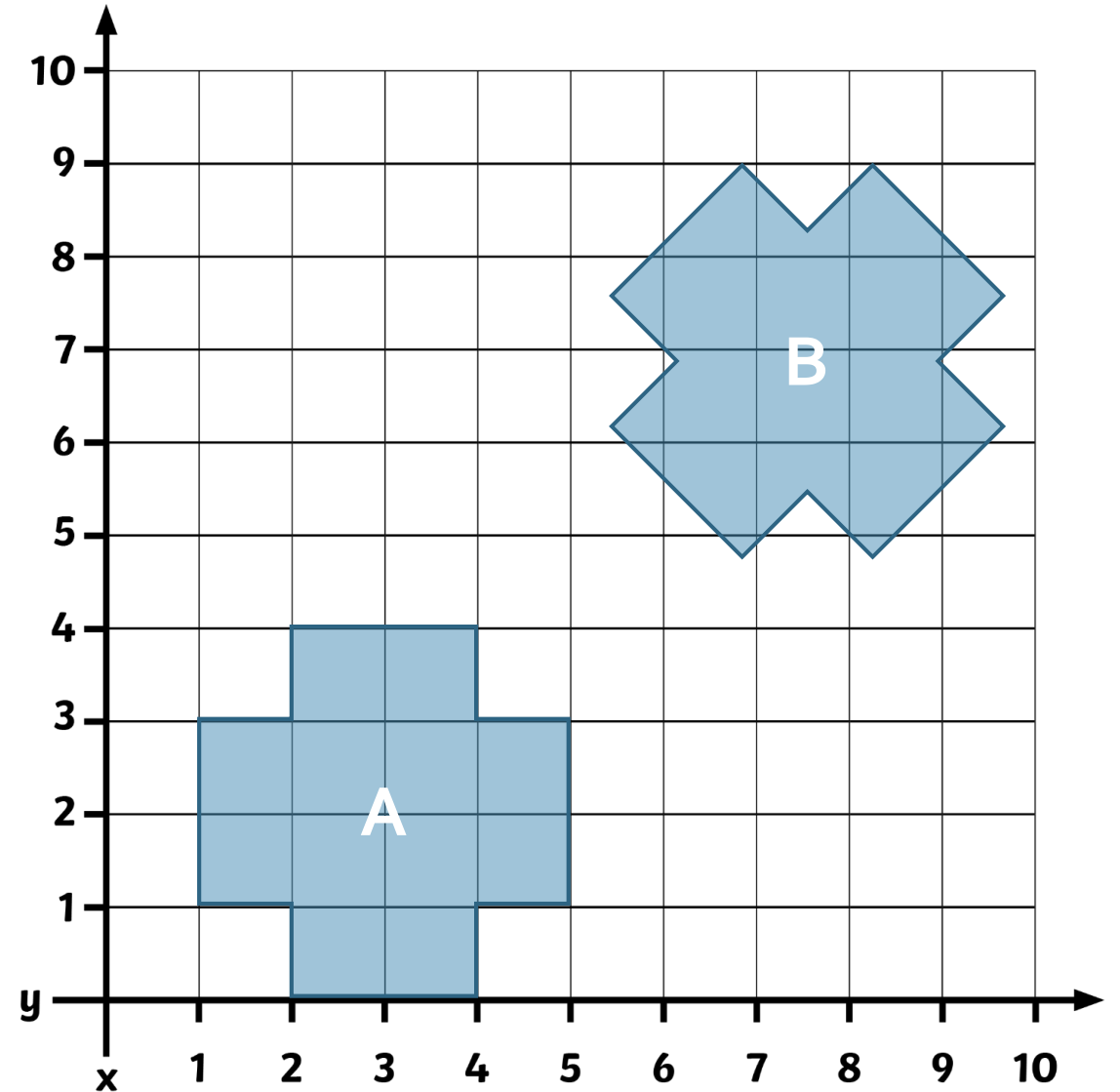
- Explain
 - The shape has been moved



Answer

Translating shapes

- Is this a translation?
- Explain



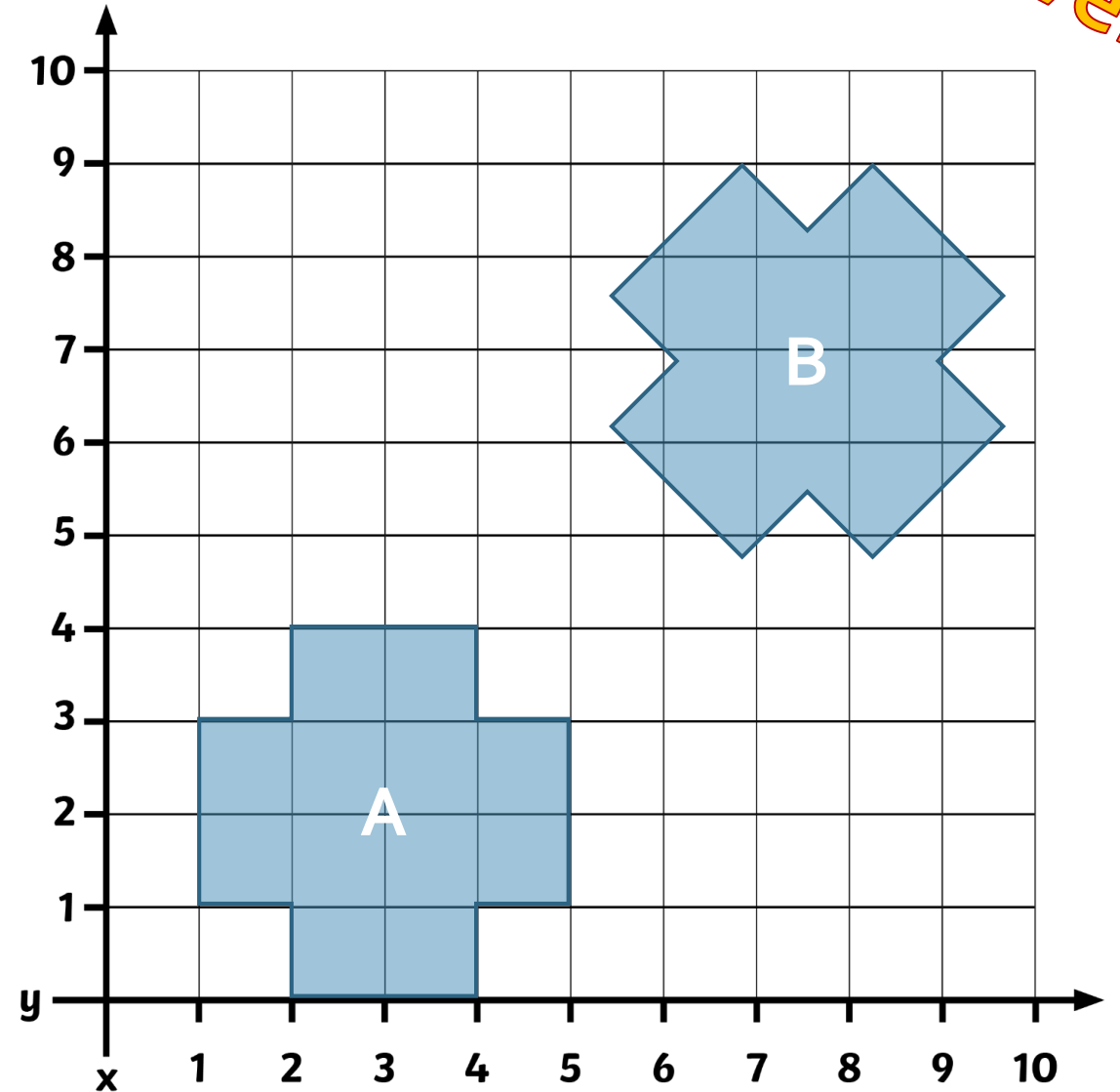
Translating shapes

- Is this a translation?

No

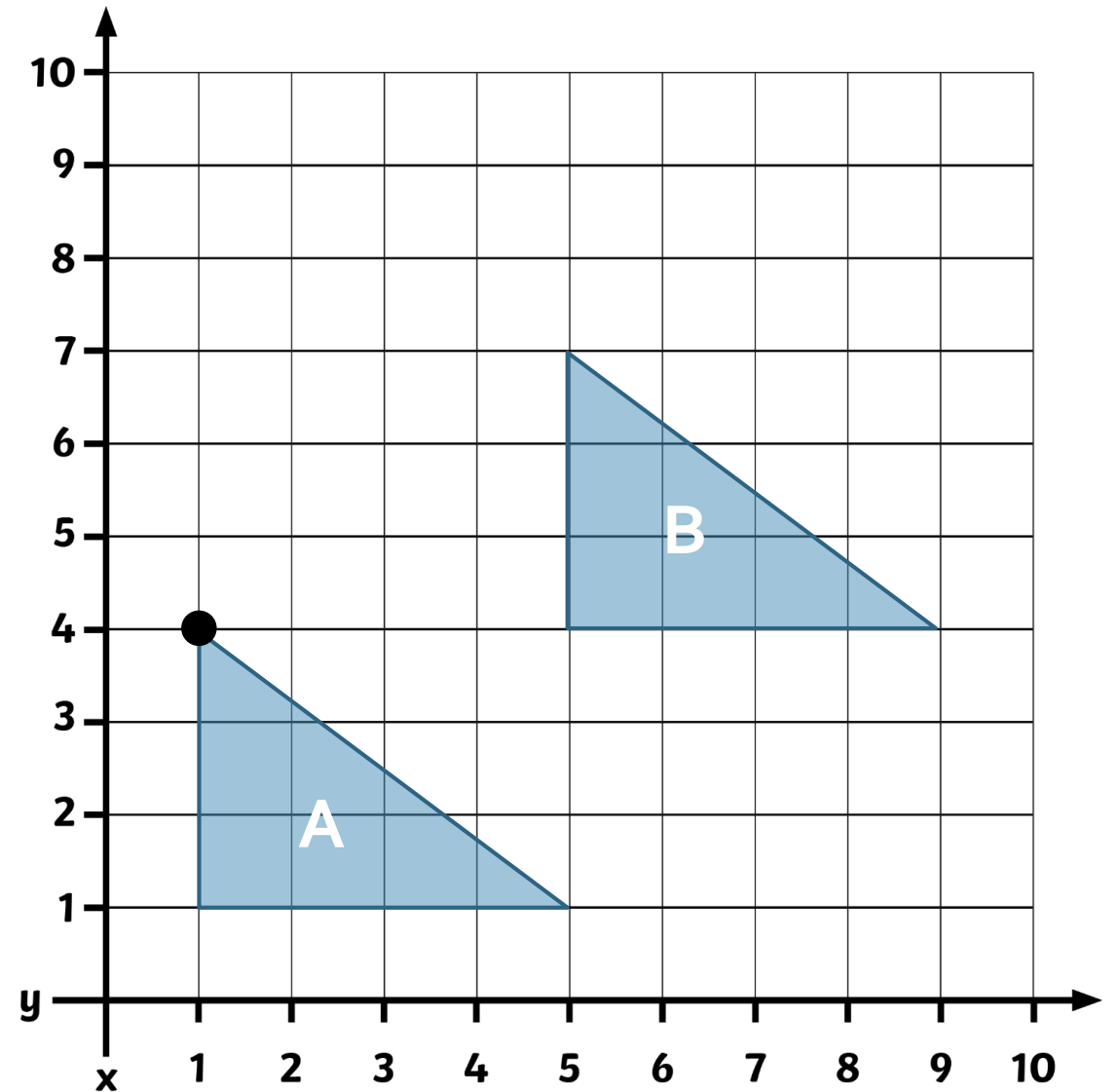


- Explain
 - The shape has been **rotated** and moved



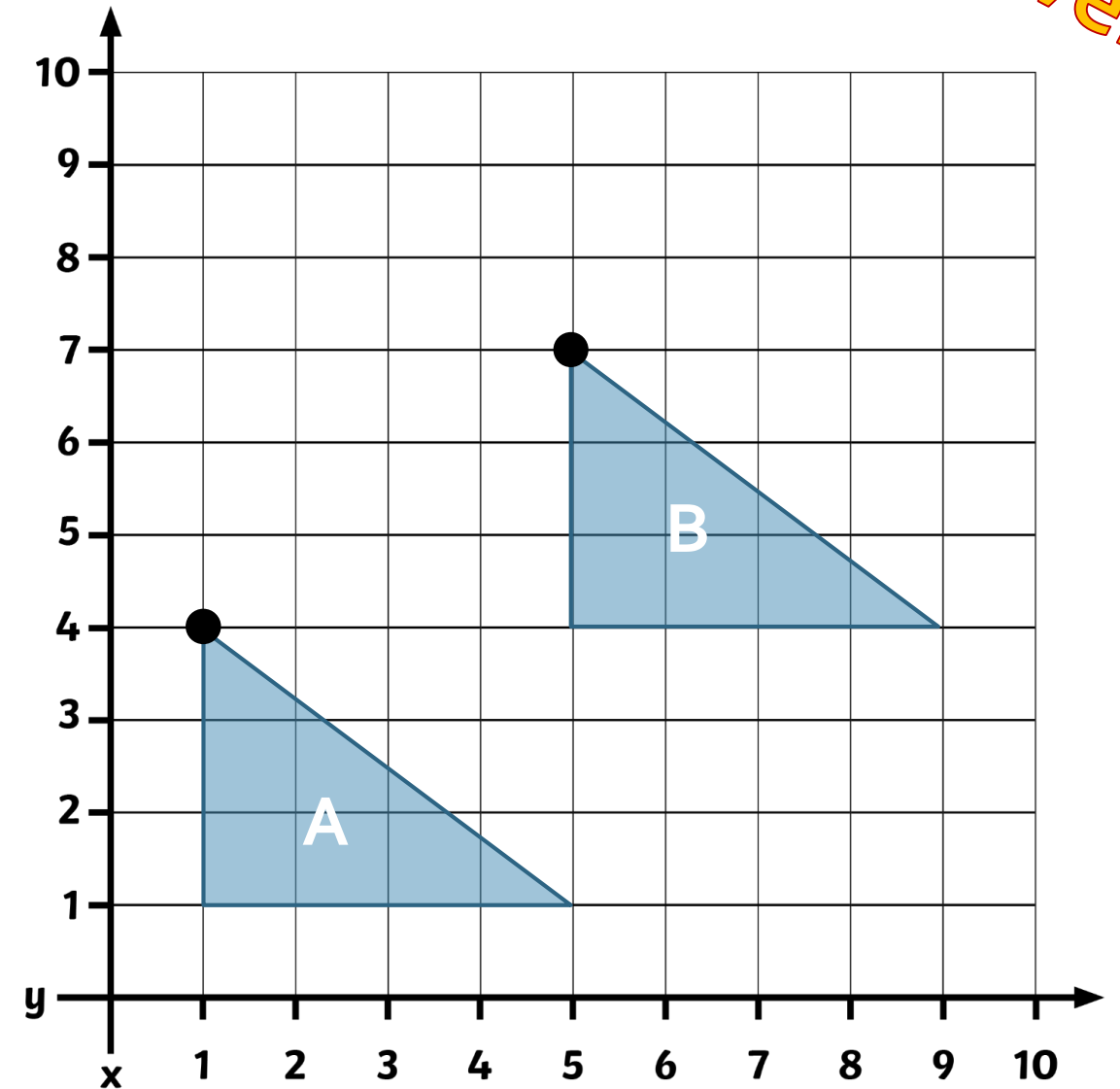
Describing translations

- 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 (1,4). What are the coordinates of the same point on shape B?



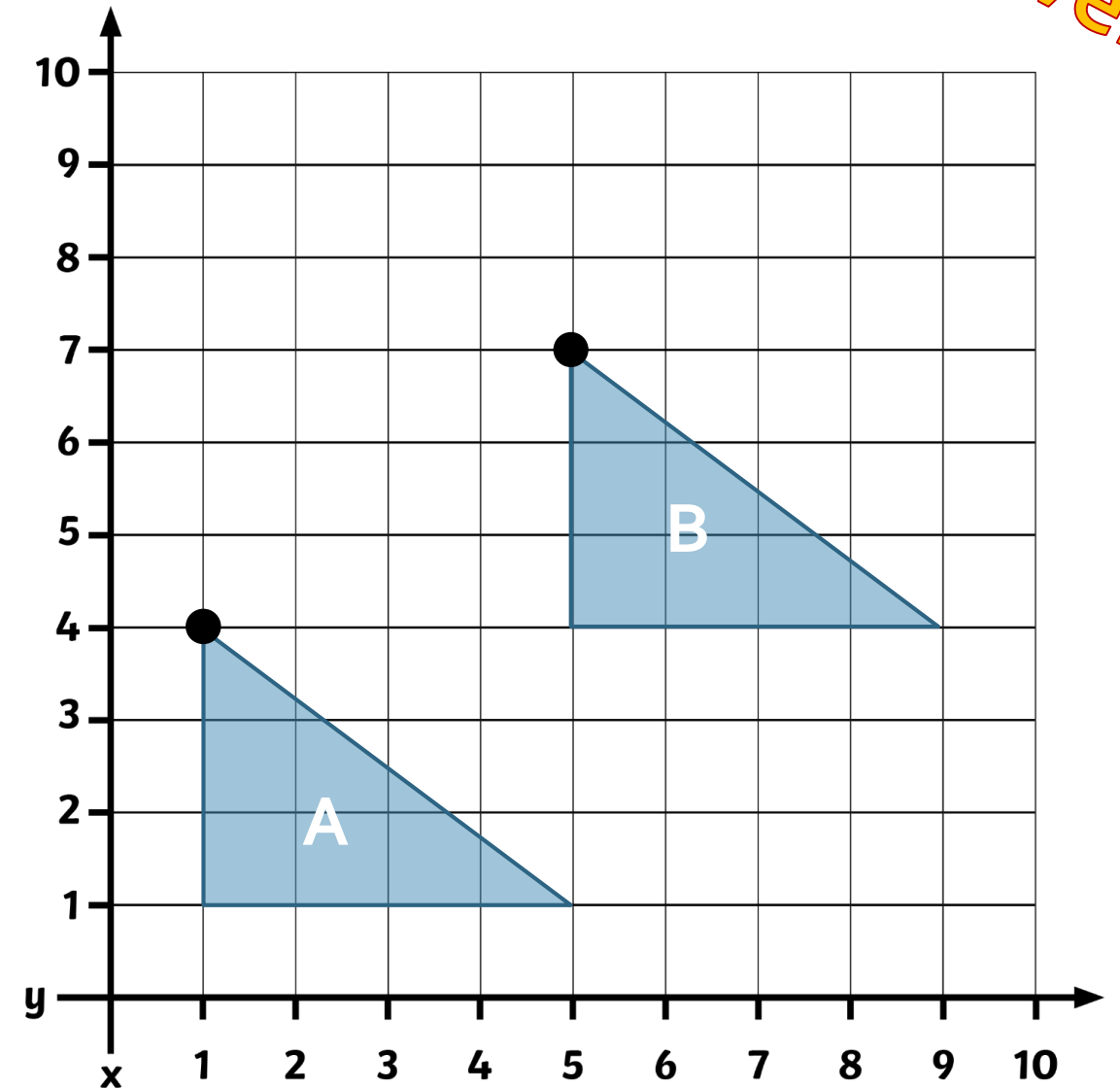
Describing translations

- The shape 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 same point on shape B? (5,7)
- Do you notice anything about the coordinates?



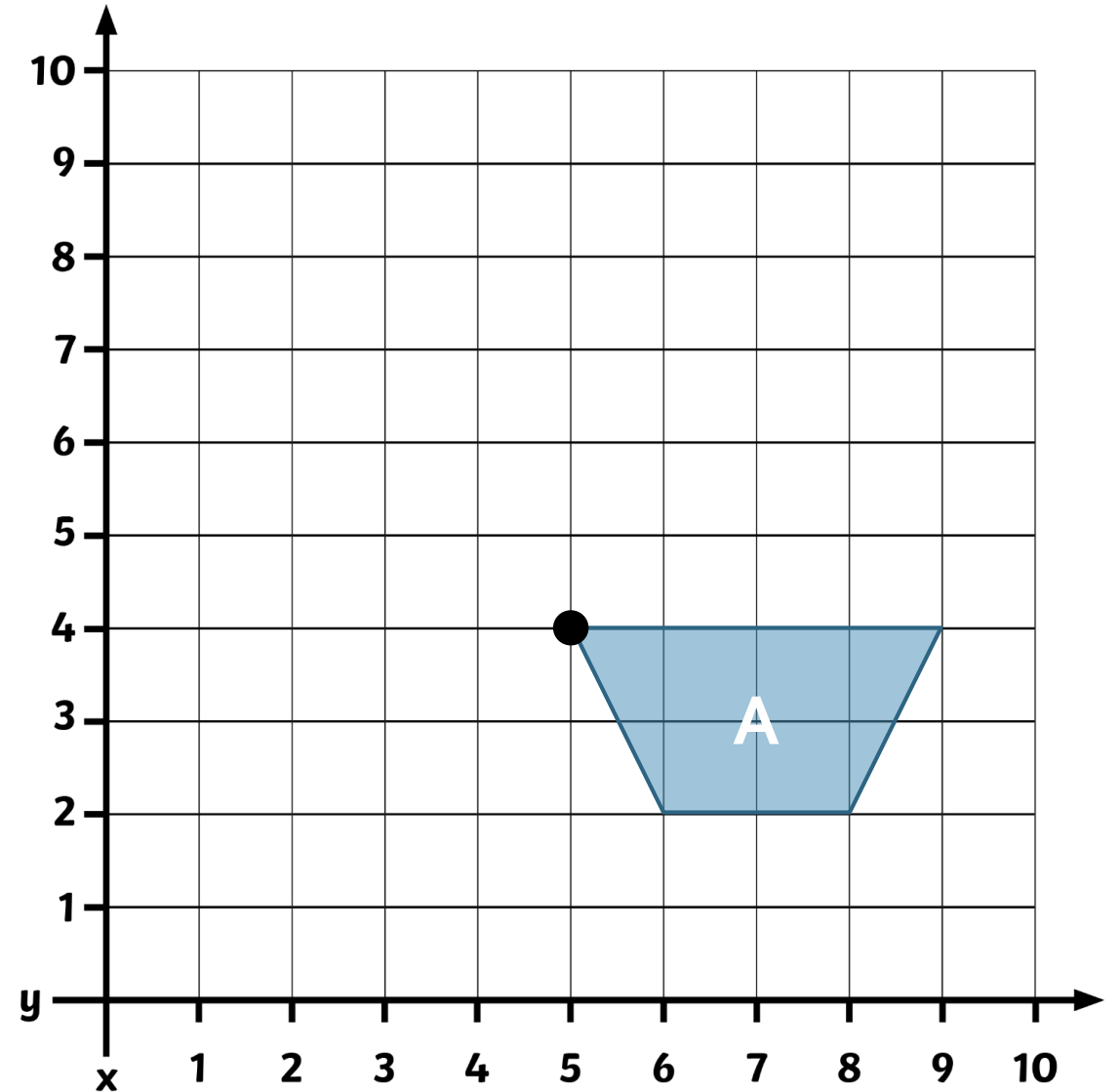
Describing translations

- The shape 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 same point on shape B? (5,7)
- Do you notice anything about the coordinates?
After moving 4 squares to the **right** the x coordinate has **increased** by 4.
After moving 3 squares **up** the y coordinate has **increased** by 3



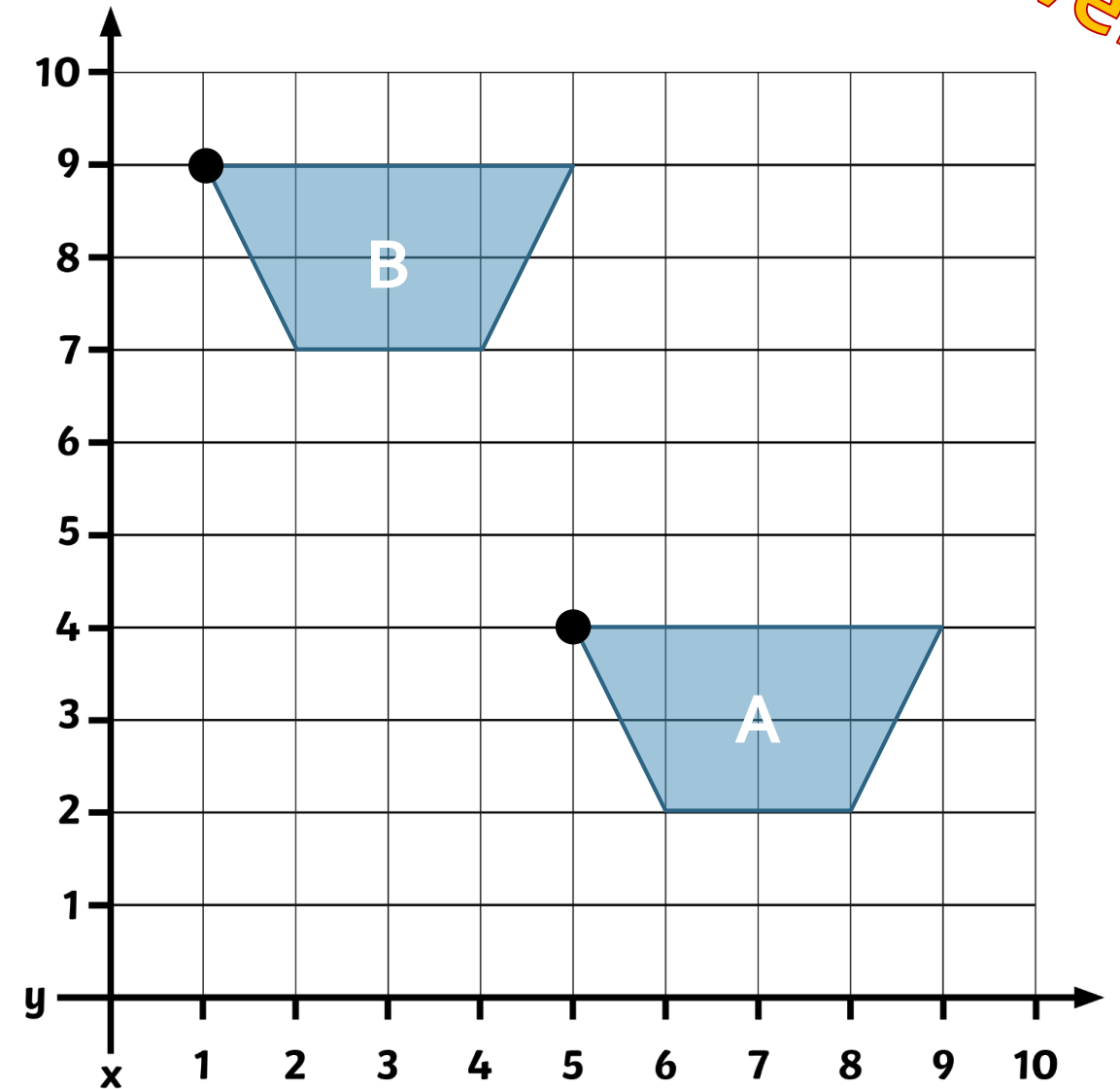
Describing translations

- The shape has been translated **4 squares to the left**. Then **5 squares up**.
- The coordinates of the black point on shape A are $(5,4)$. What are the coordinates of the same point on shape B?



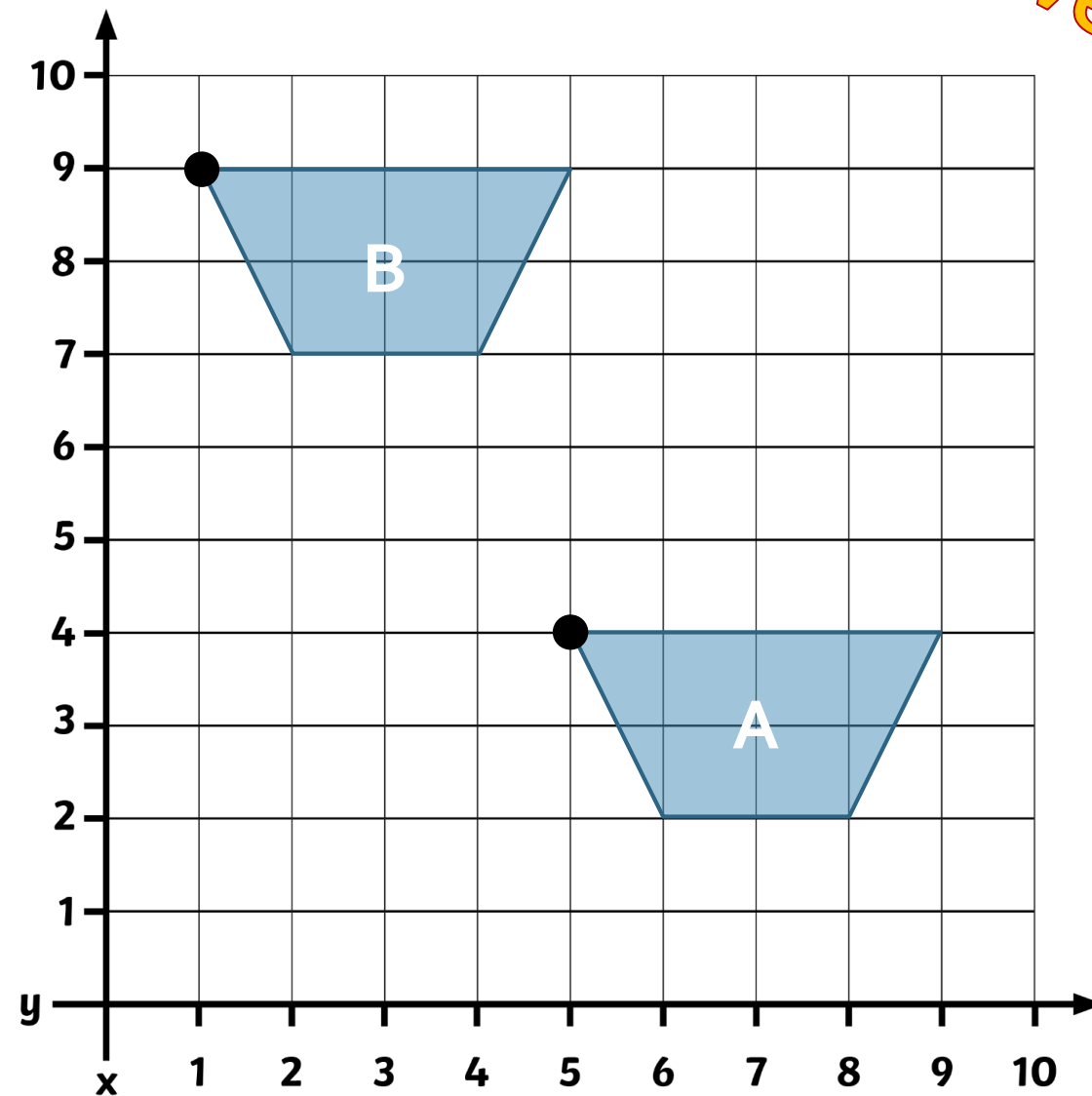
Describing translations

- The shape has been translated **4 squares to the left**. Then **5 squares up**.
- The coordinates of the black point on shape A are $(5,4)$. What are the coordinates of the same point on shape B? $(1,9)$
- What do you notice about the coordinates



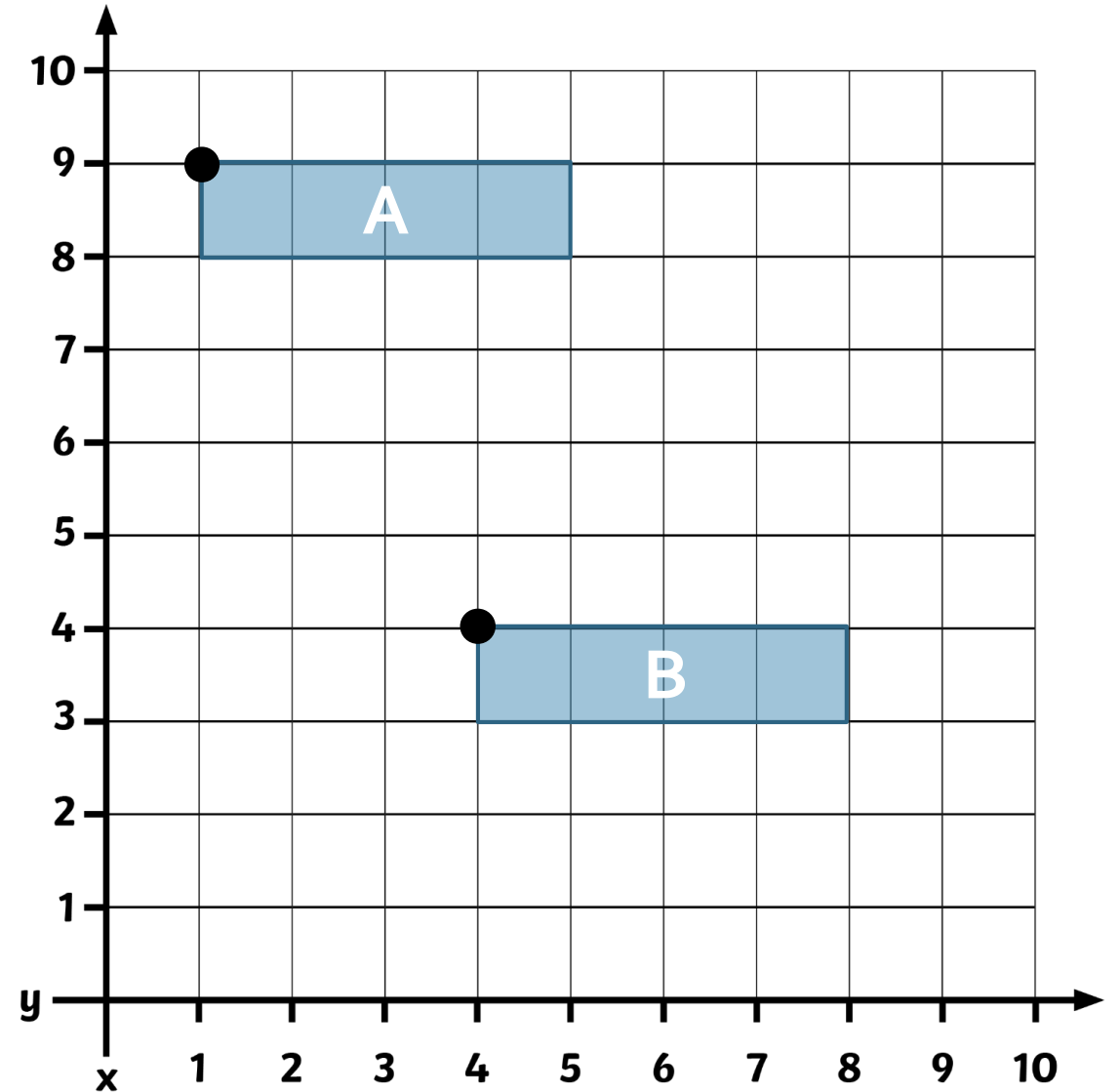
Describing translations

- The shape has been translated **4 squares to the left**. Then **5 squares up**.
- The coordinates of the black point on shape A are (5,4). What are the coordinates of the same point on shape B? (1,9)
- **What do you notice about the coordinates**
After moving 4 squares to the **left** the x coordinate has **decreased** by 4.
After moving 5 squares **up** the y coordinate has **increased** by 5



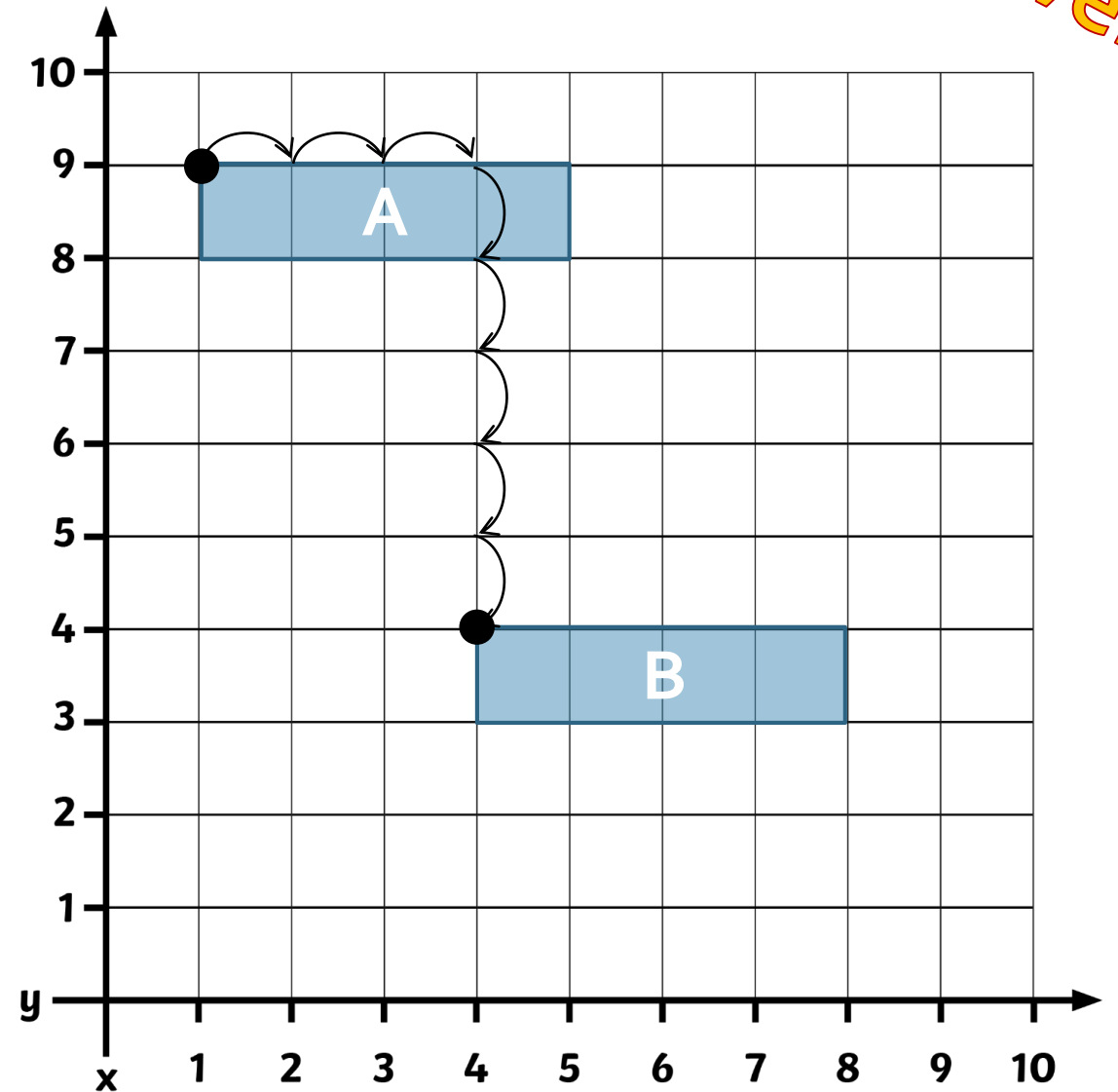
How has the shape been translated?

- Describe the translation of shape A to shape B
- Make sure you look at left/right first, then up/down
- What are the coordinates of the points on the two shapes?



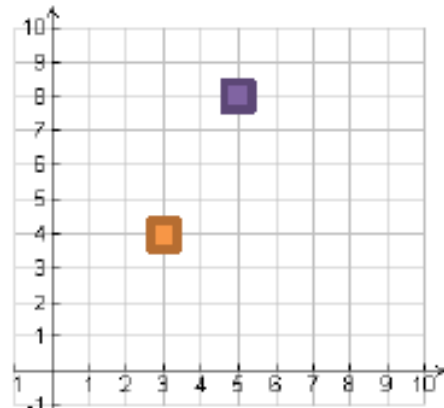
How has the shape been translated?

- Describe the translation of shape A to shape B
- Make sure you look at left/right first, then up/down
- Right 3 squares. Down 5 squares.
- What are the coordinates of the points on the two shapes?
- A (1,9) B (4,4)



Task

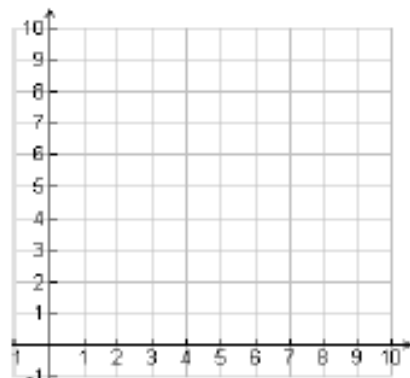
- Describe the movement of the orange square to the purple square.



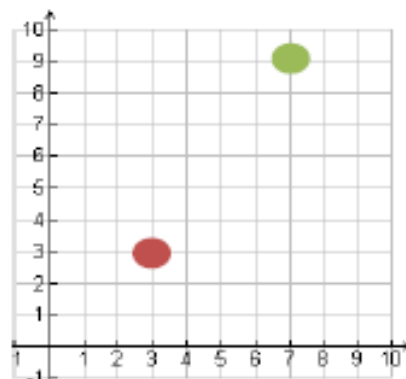
- The coordinates of point A are (3,2). Point B is 2 square left and 7 squares up from point A.

What are the co-ordinates of Point B?

Draw Point A and Point B on the grid.



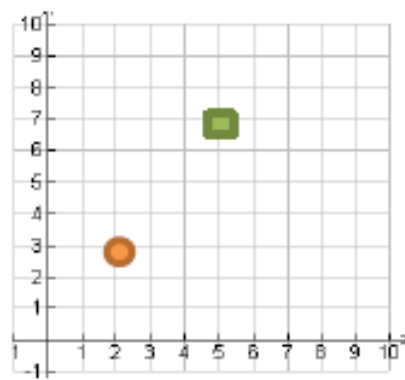
- Describe the movement from the green circle to the red circle.



Describe the movement from the red circle to the green circle.

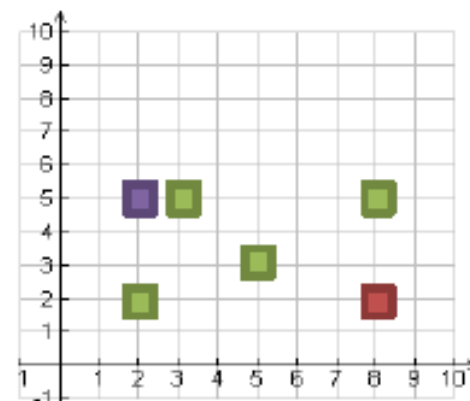
What do you notice about your descriptions?

- Keeley has described the movement of the orange circle to the green square as 3 squares to the left and 4 squares down.



Do you agree? Explain why.

- Write a set of instructions to move the red square to the purple square without going through any green squares.



- Write a set of instructions to move from the yellow circle to the purple circle while passing through all the other coloured circles. Compare your instructions with a friend. How are they the same? How are they different?

