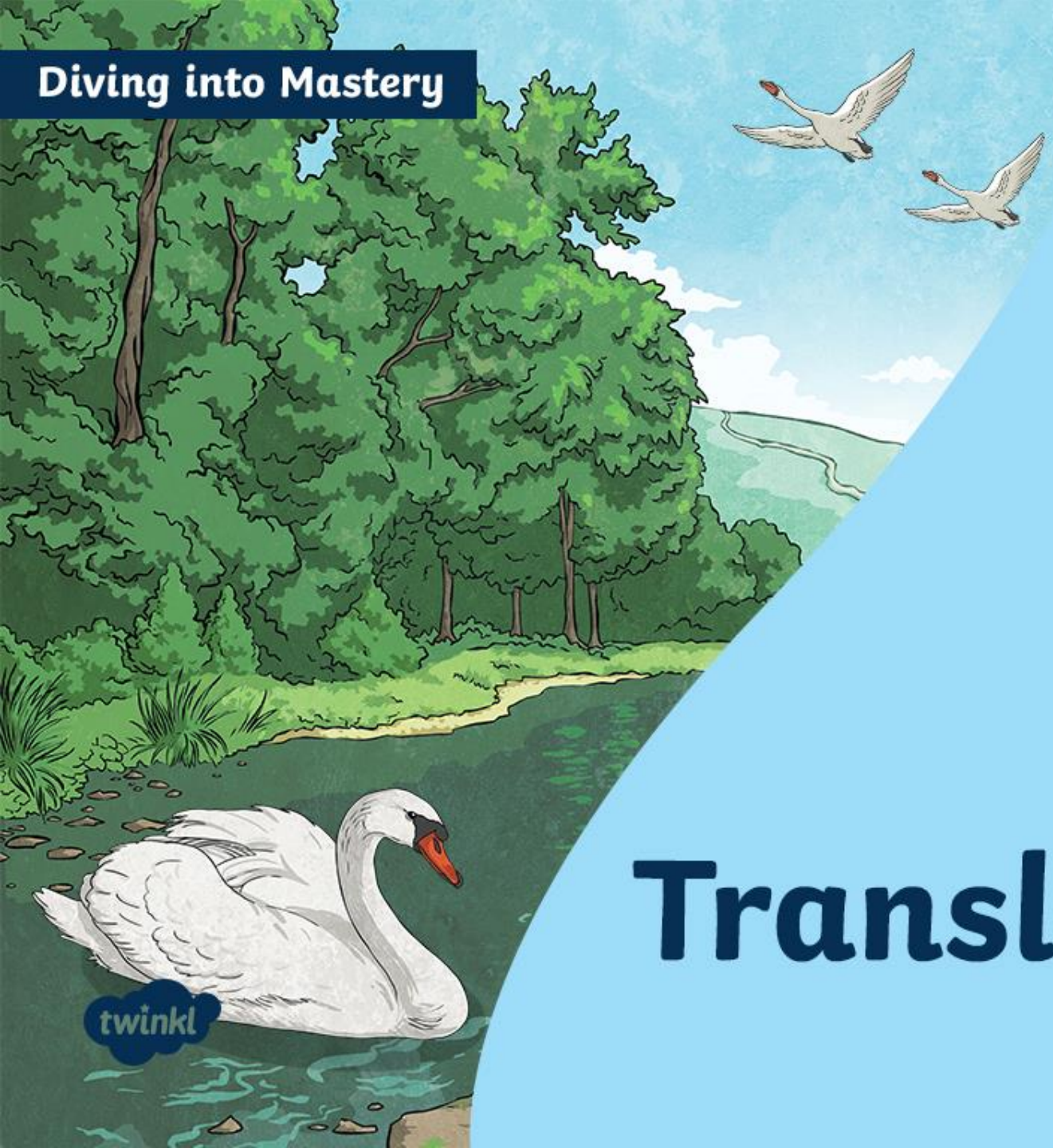
Diving into Mastery



Translations

twinkl
Quality Standard Approved

Diving into Mastery Guidance for Educators

Each activity sheet is split into three sections, diving, deeper and deepest, which are represented by the following icons:



Diving



Deeper

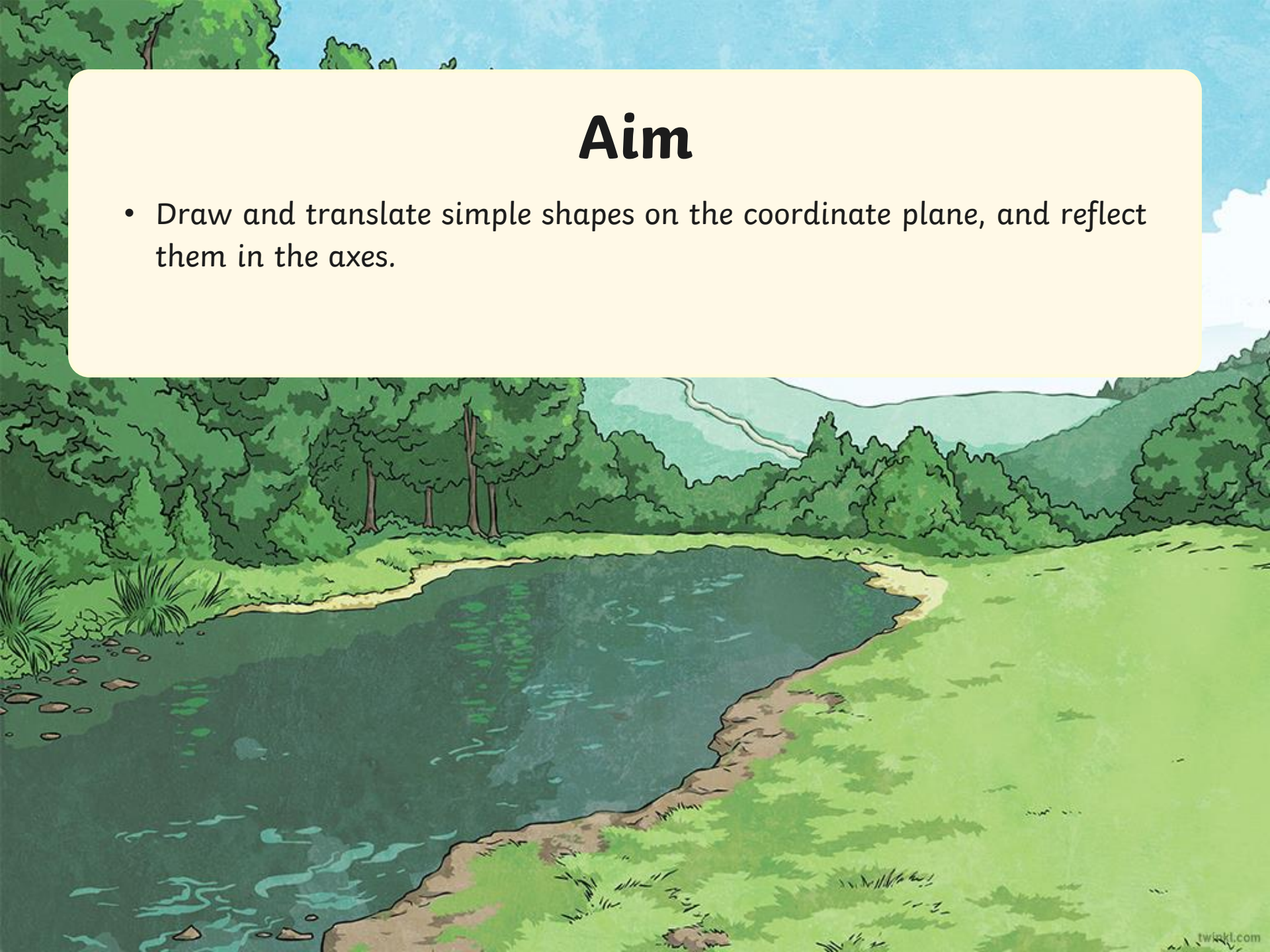


Deepest

These carefully designed activities take your children through a learning journey, initially ensuring they are fluent with the key concept being taught; then applying this to a range of reasoning and problem-solving activities.

These sheets might not necessarily be used in a linear way. Some children might begin at the 'Deeper' section and in fact, others may 'dive straight in' to the 'Deepest' section if they have already mastered the skill and are applying this to show their depth of understanding.

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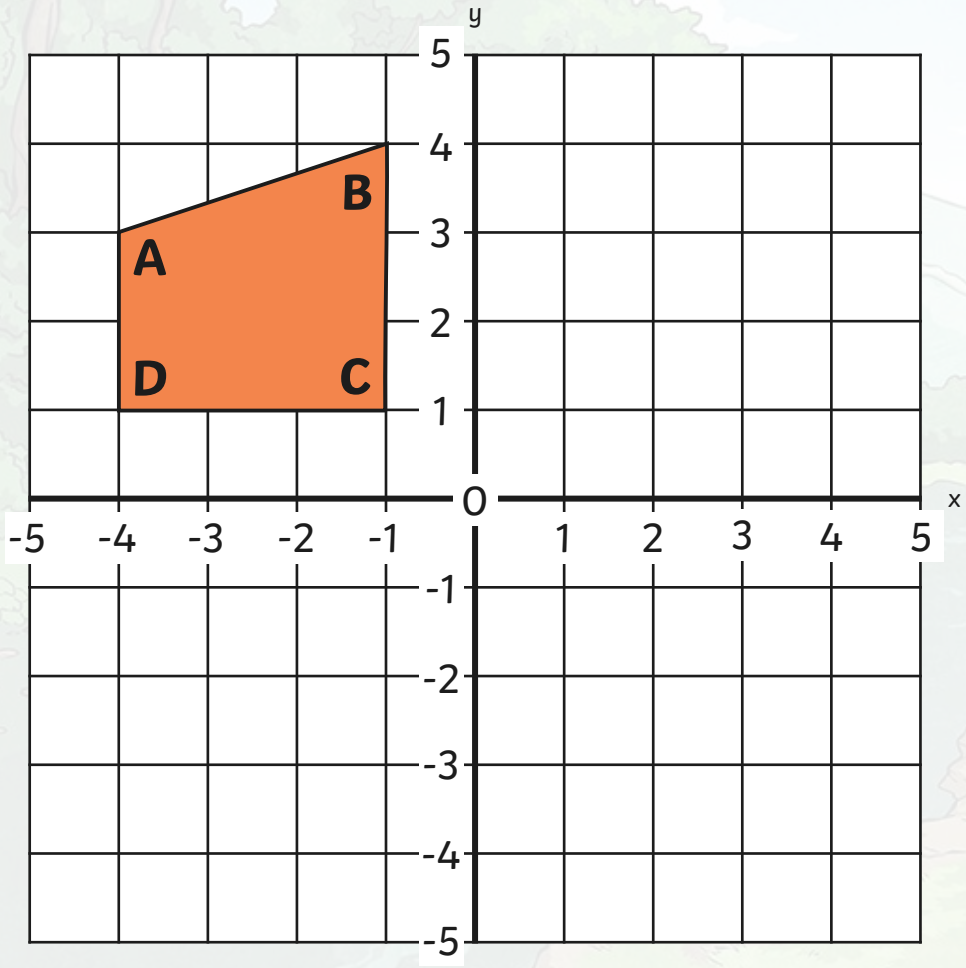
Aim

- Draw and translate simple shapes on the coordinate plane, and reflect them in the axes.

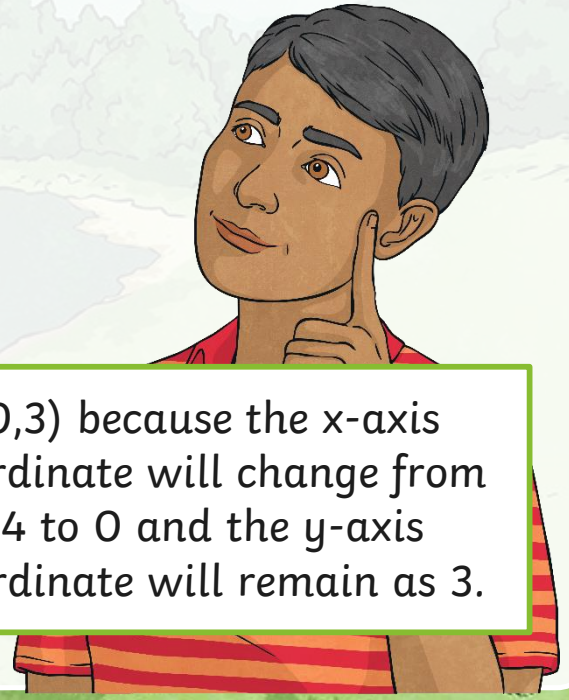
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Translations | **Diving**

Ramesh has plotted this quadrilateral on a four-quadrant coordinate grid.



If the quadrilateral is translated 4 squares to the right, what will the new coordinates of vertex A be?

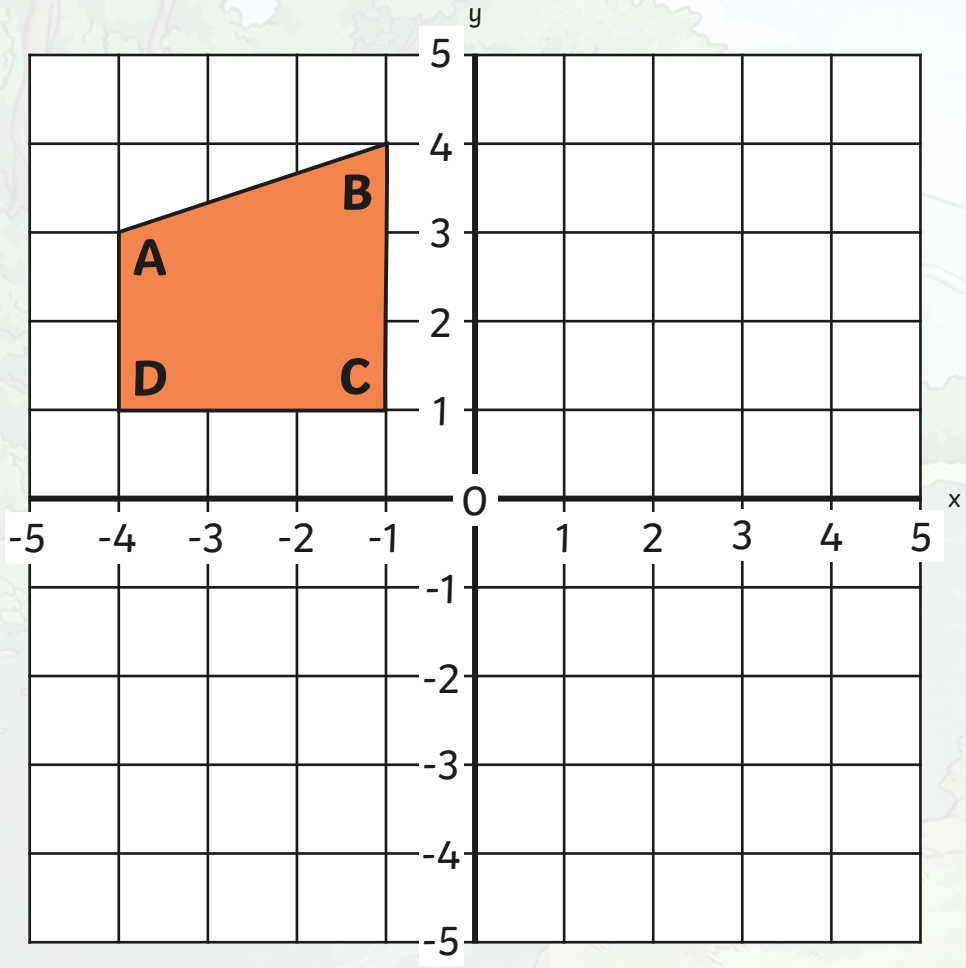


(0,3) because the x-axis coordinate will change from -4 to 0 and the y-axis coordinate will remain as 3.

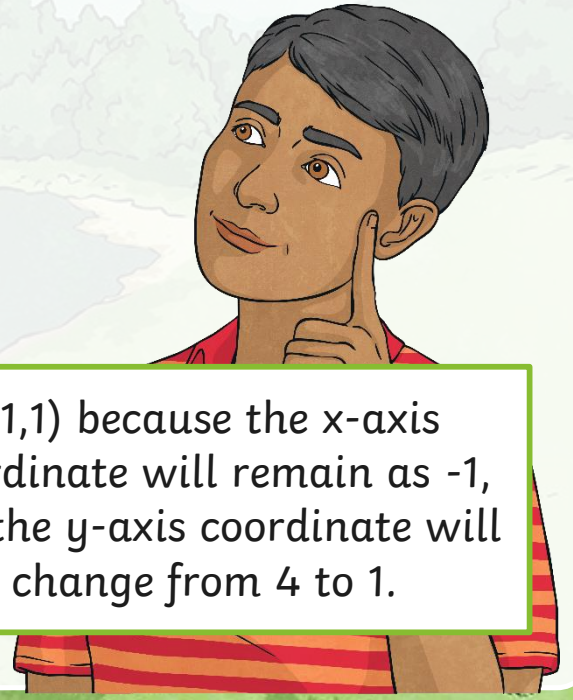
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Translations | **Diving**

Ramesh has plotted this quadrilateral on a four-quadrant coordinate grid.



If the quadrilateral is translated 3 squares down, what will the new coordinates of vertex B be?

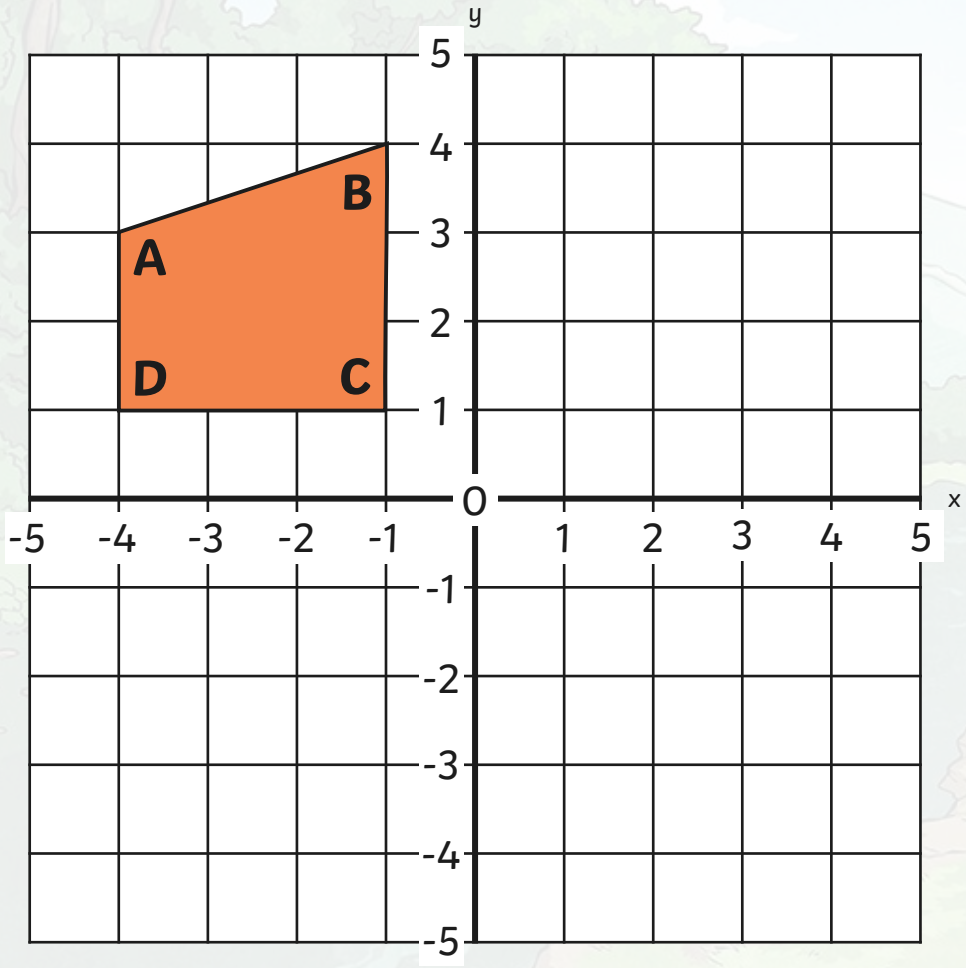


(-1,1) because the x-axis coordinate will remain as -1, but the y-axis coordinate will change from 4 to 1.

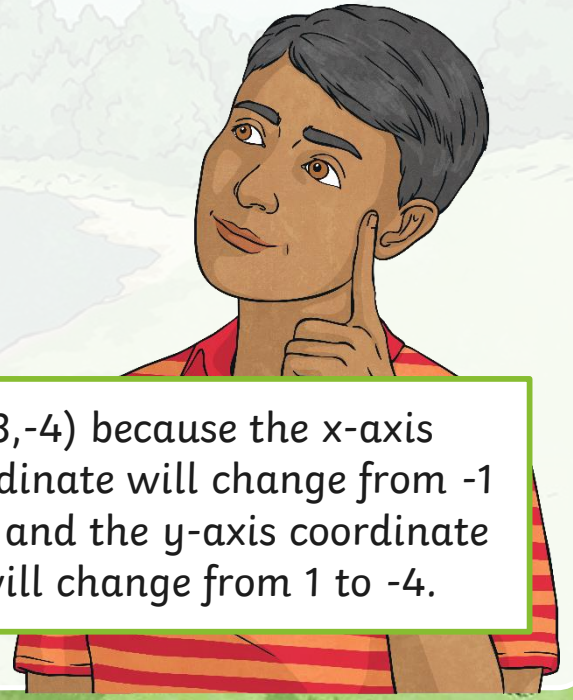
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Translations | **Diving**

Ramesh has plotted this quadrilateral on a four-quadrant coordinate grid.



If the quadrilateral is translated 4 squares to the right and 5 squares down, what will the new coordinates of vertex C be?

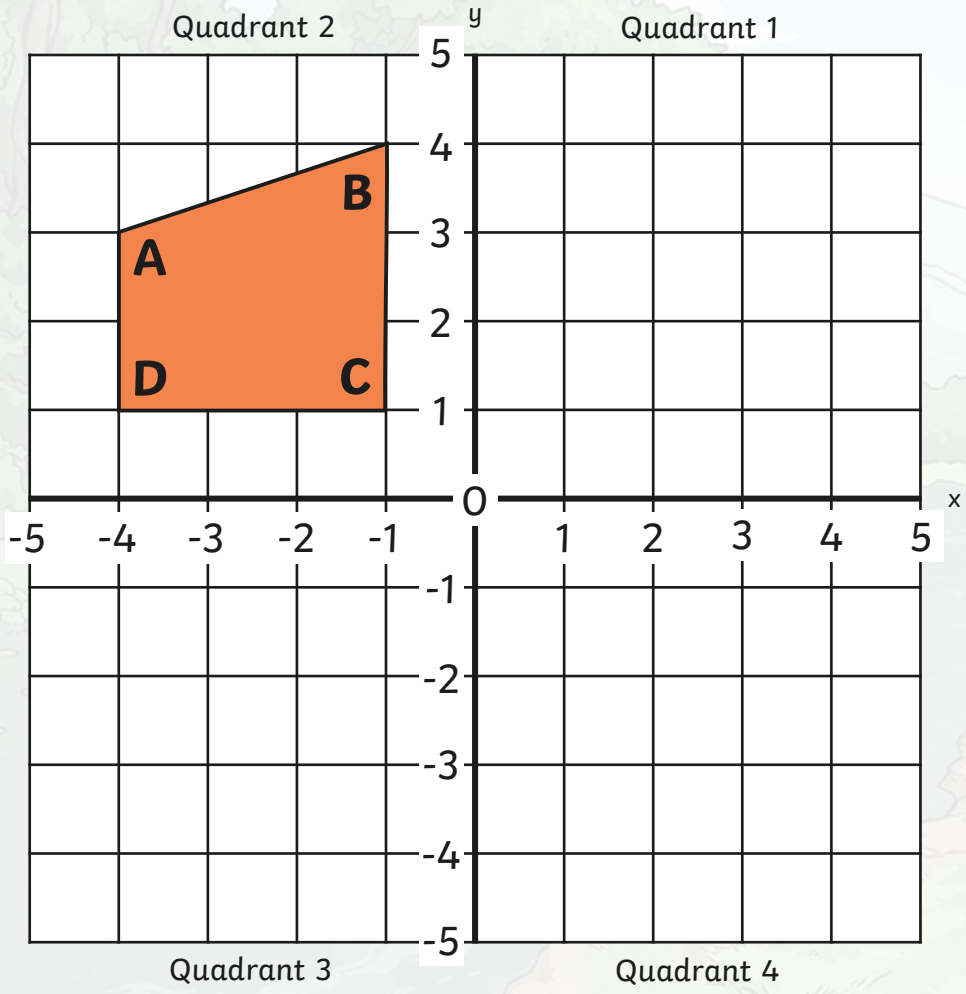


(3,-4) because the x-axis coordinate will change from -1 to 3 and the y-axis coordinate will change from 1 to -4.

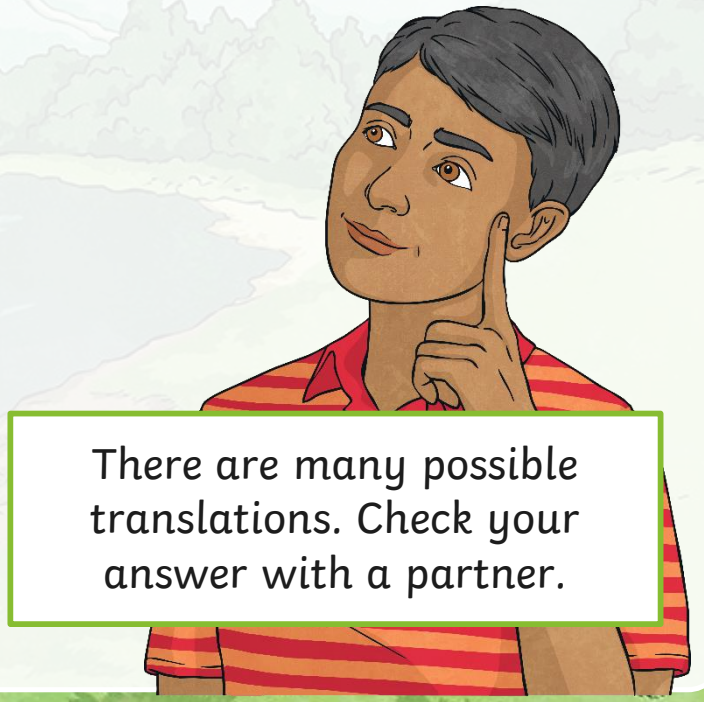
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Translations | **Diving**

Ramesh has plotted this quadrilateral on a four-quadrant coordinate grid.



Describe any translation that will result in vertex D being in the fourth quadrant.



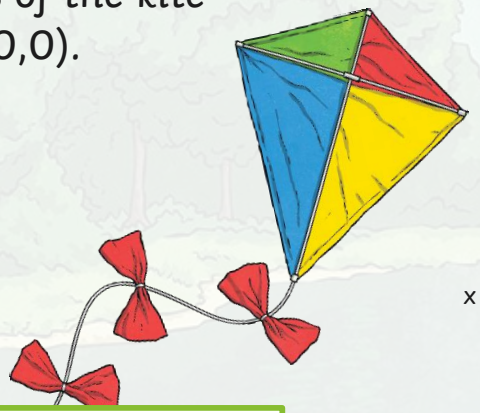
There are many possible translations. Check your answer with a partner.

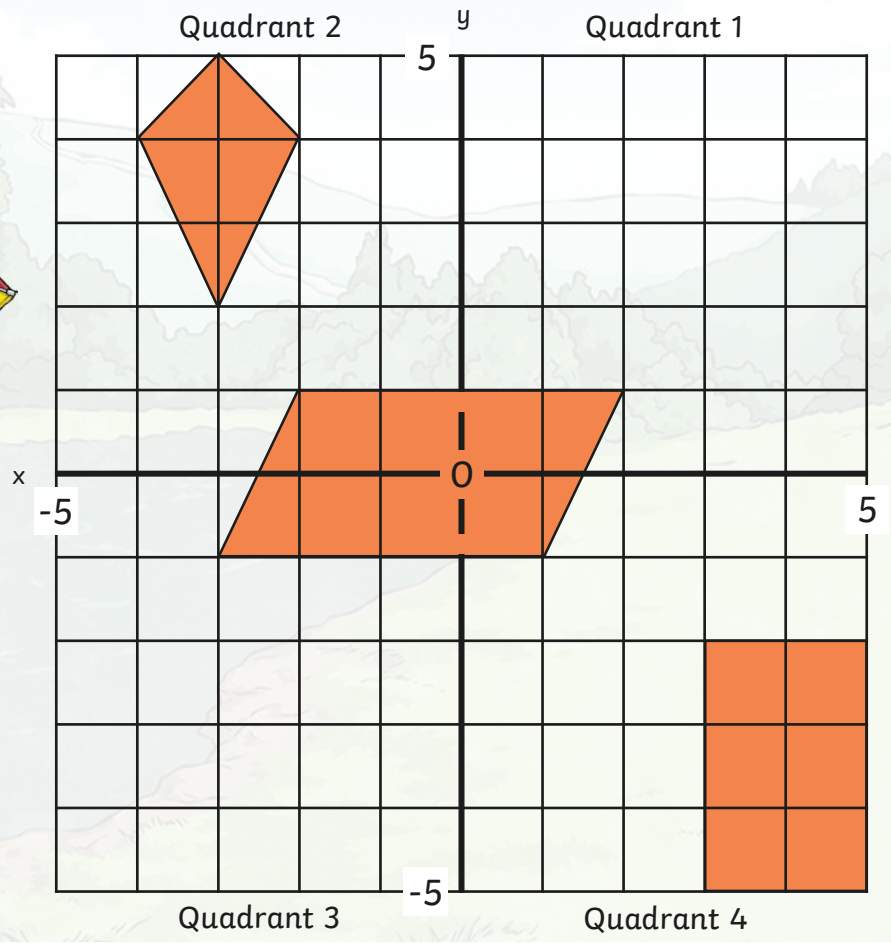
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Translations | **Deeper**

Is this statement about one of the quadrilaterals on this four-quadrant coordinate grid true or false? Explain your answer using reasoning.

After a translation of 2 squares to the right and 2 squares down, one of the vertices of the kite would be at (0,0).





False

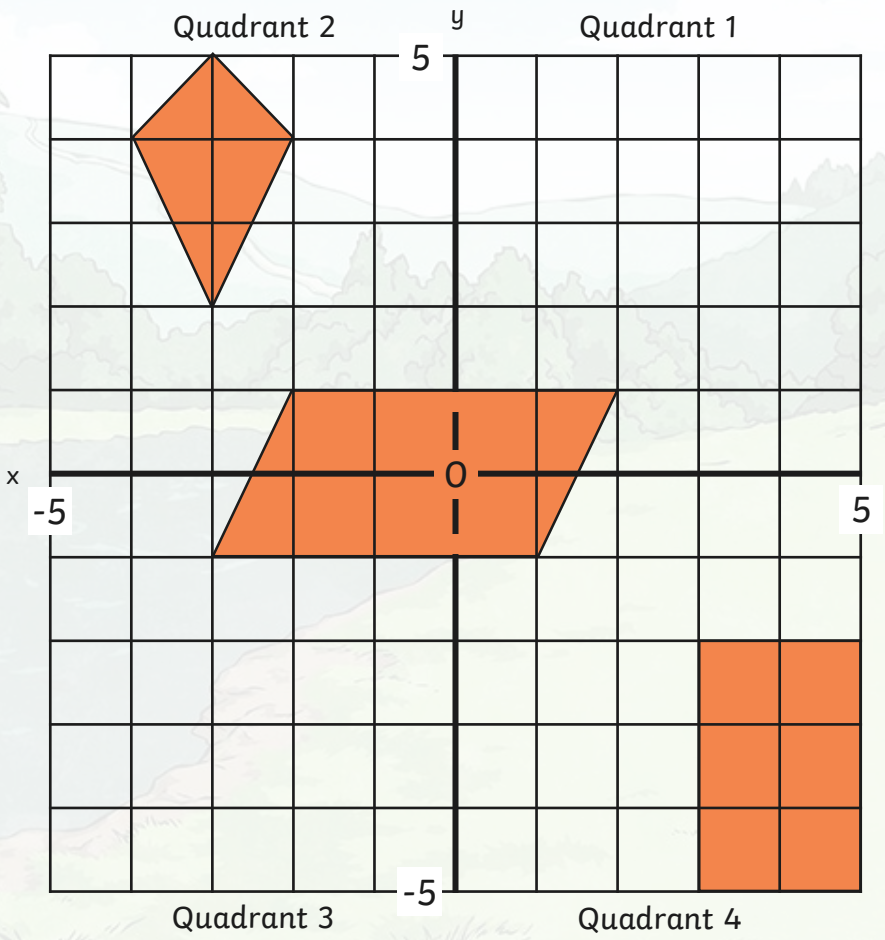
The new coordinates of the kite would be (-1,3), (0,2), (-1,0) and (-2,2).

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Translations | **Deeper**

Is this statement about one of the quadrilaterals on this four-quadrant coordinate grid true or false? Explain your answer using reasoning.

The rectangle is translated so that one of the vertices is now at (-3,-2). The only way to describe the translation is 6 squares left.



False

The translations could also be:

8 squares left

6 squares left and 3 squares up

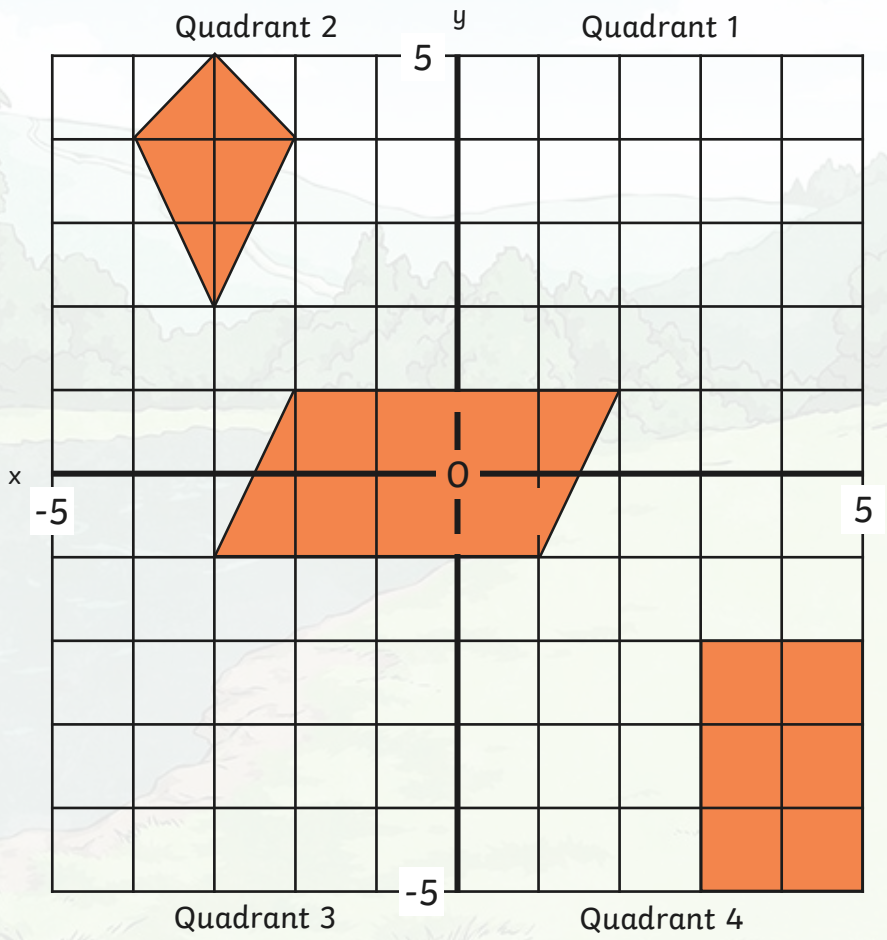
8 squares left and 3 squares up

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Translations | **Deeper**

Is this statement about one of the quadrilaterals on this four-quadrant coordinate grid true or false? Explain your answer using reasoning.

After a translation of 2 squares to the right and 2 squares up, all of the vertices of the parallelogram will be in quadrant 1.

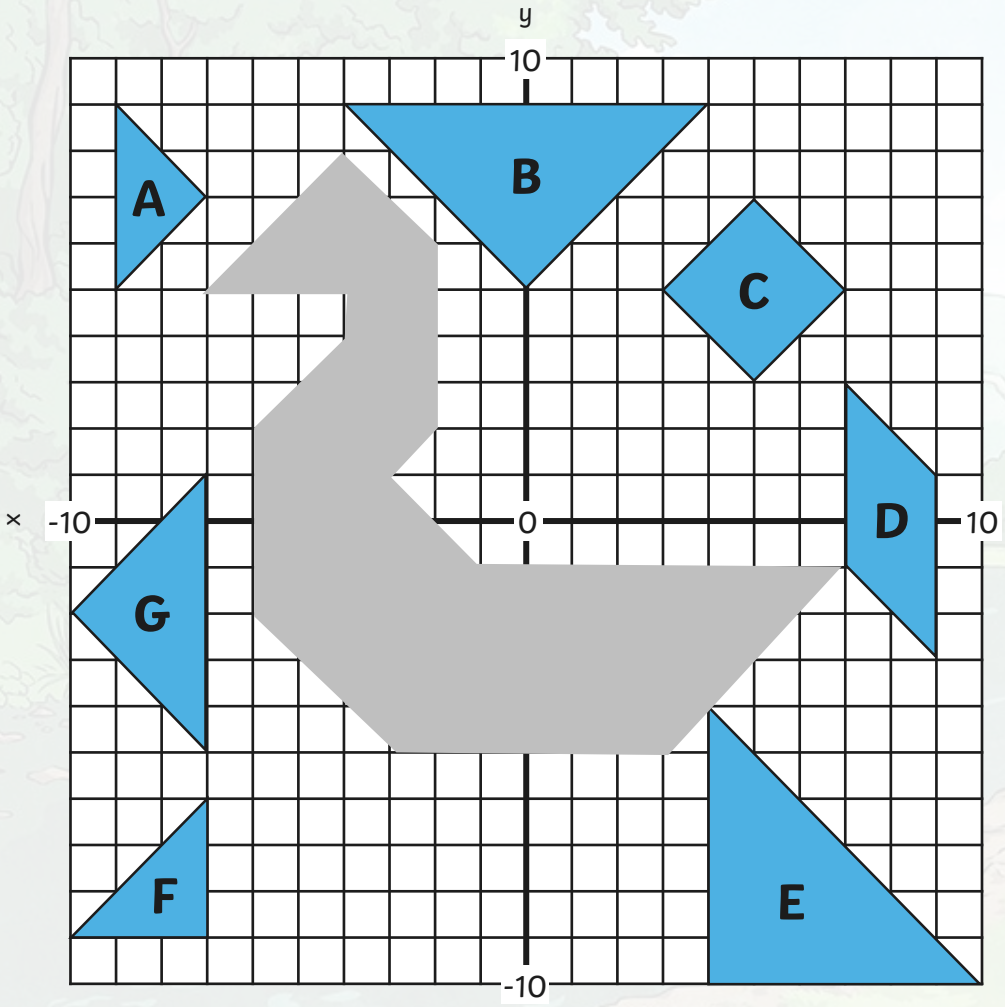


False

The coordinates of one of the vertices would be (-1,1), which is in quadrant 2.

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Translations | **Deepest**

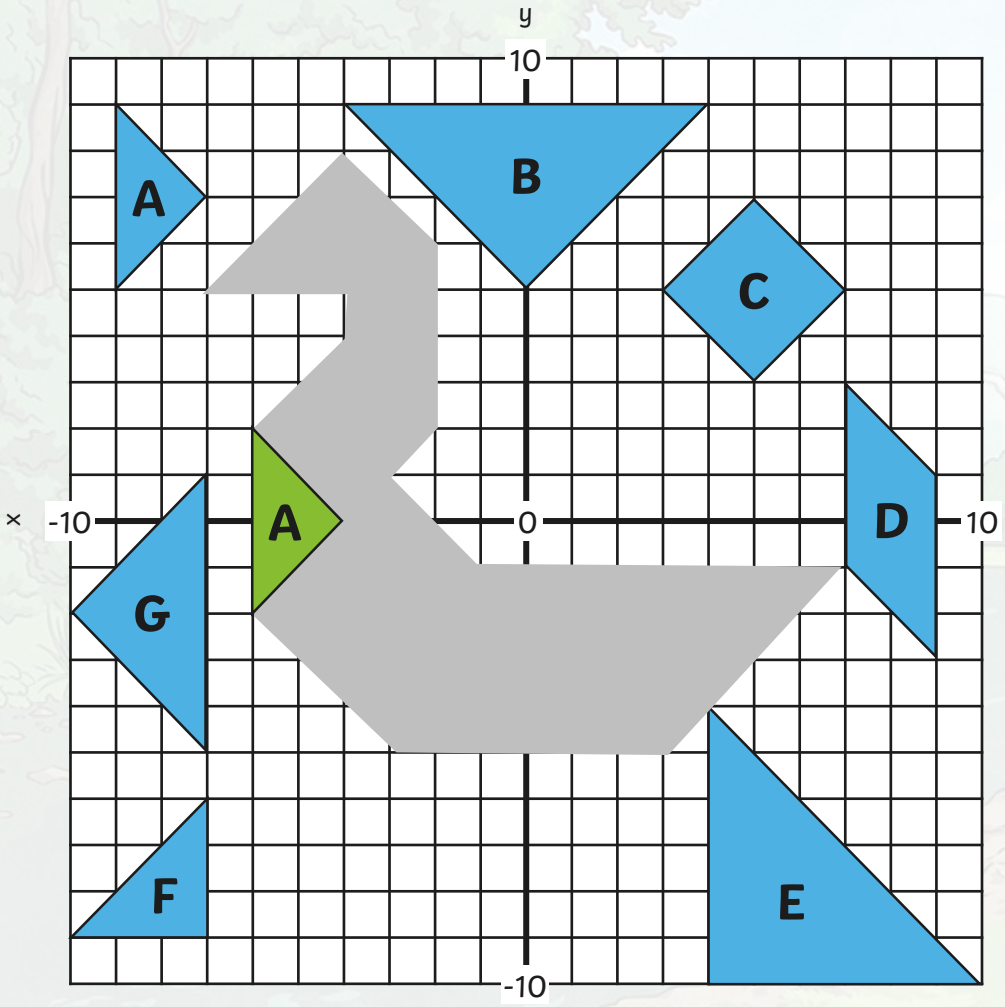


Translate the shapes into position to create the shaded swan. Record your translations and the starting and finishing coordinates of the vertices of each shape.



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Translations | **Deepest**

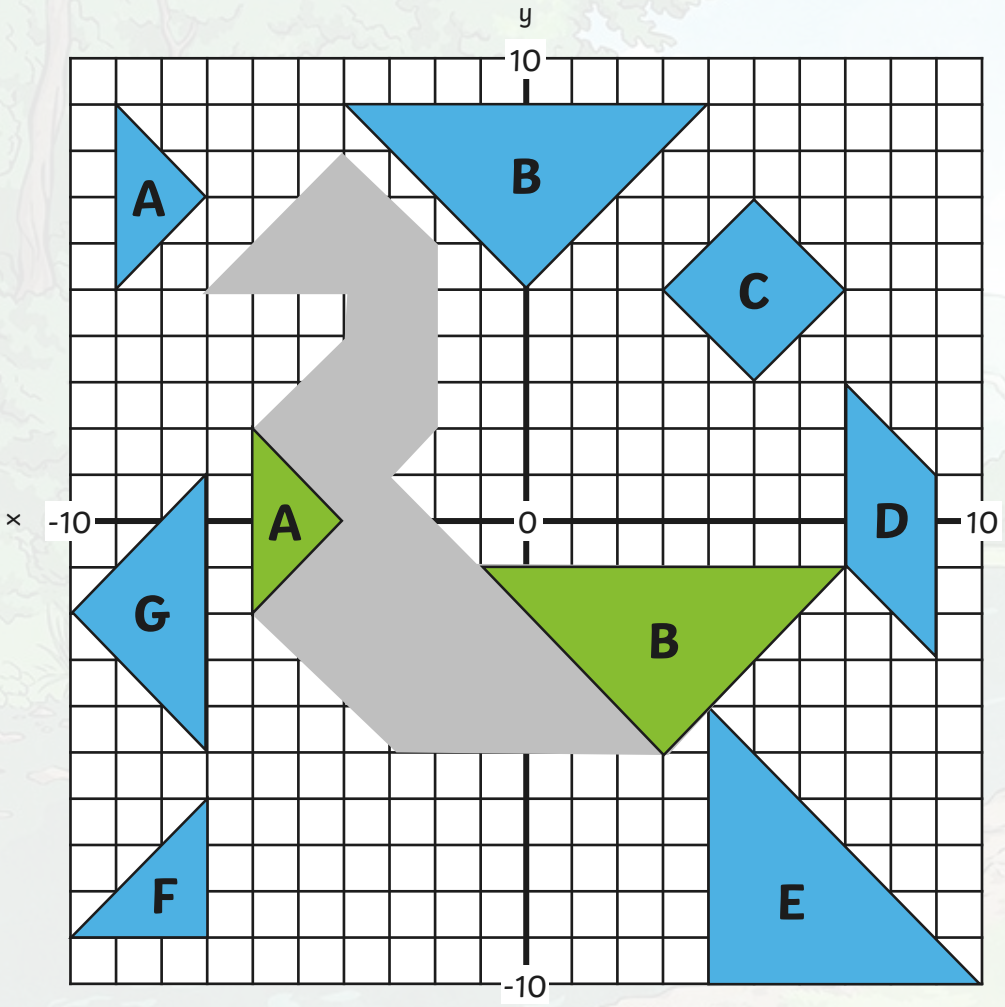


Translate each shape into position to create the shaded swan. Record your translation and the starting and finishing coordinates of the vertices.

Shape:	
Starting Coordinates:	
Translation:	
Finishing Coordinates:	

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Translations | **Deepest**

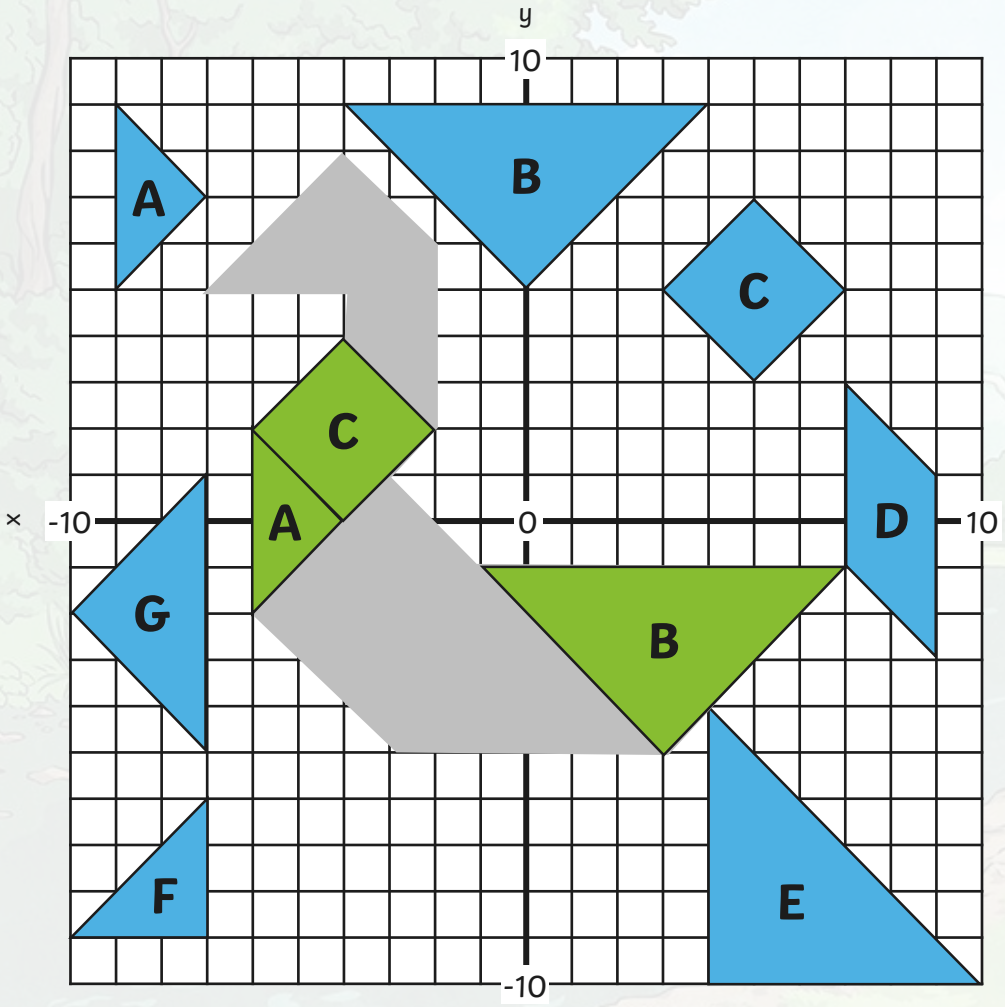


Translate each shape into position to create the shaded swan. Record your translation and the starting and finishing coordinates of the vertices.

Shape:	
Starting Coordinates:	
Translation:	
Finishing Coordinates:	

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Translations | **Deepest**

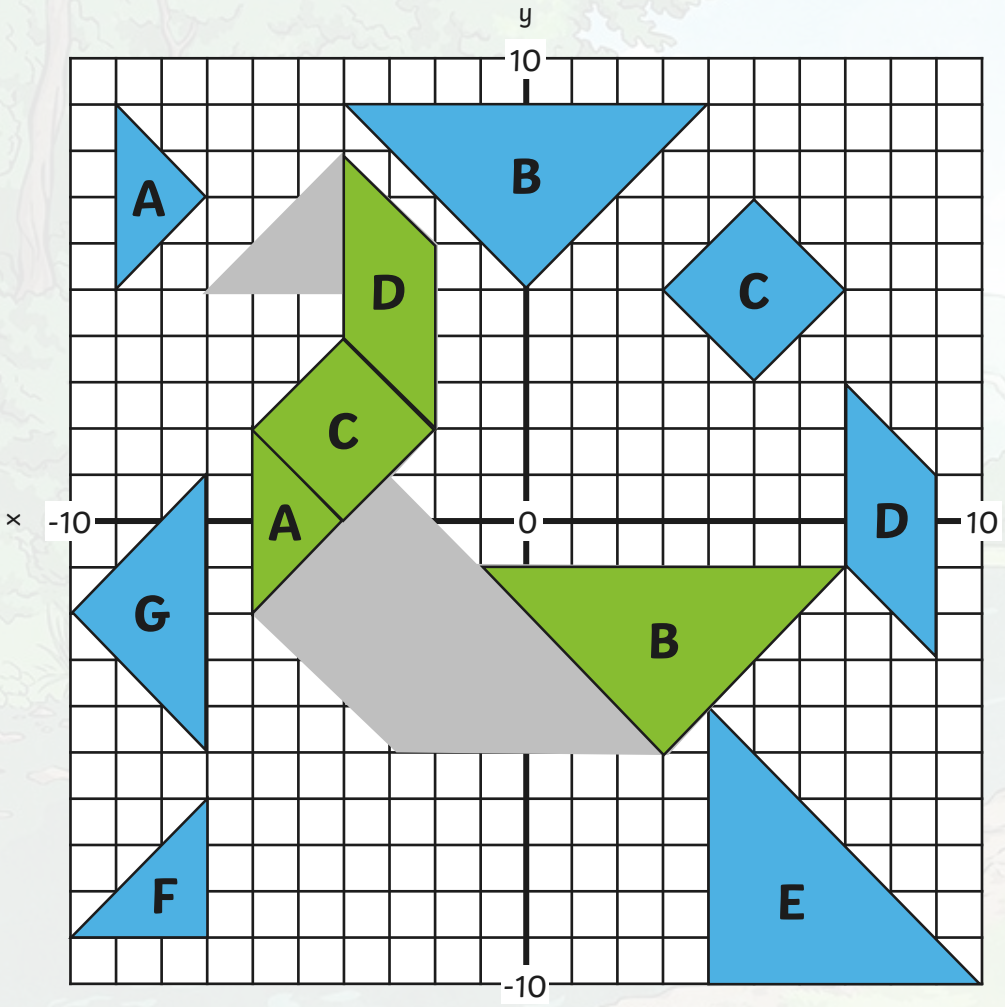


Translate each shape into position to create the shaded swan. Record your translation and the starting and finishing coordinates of the vertices.

Shape:	
Starting Coordinates:	
Translation:	
Finishing Coordinates:	

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Translations | **Deepest**

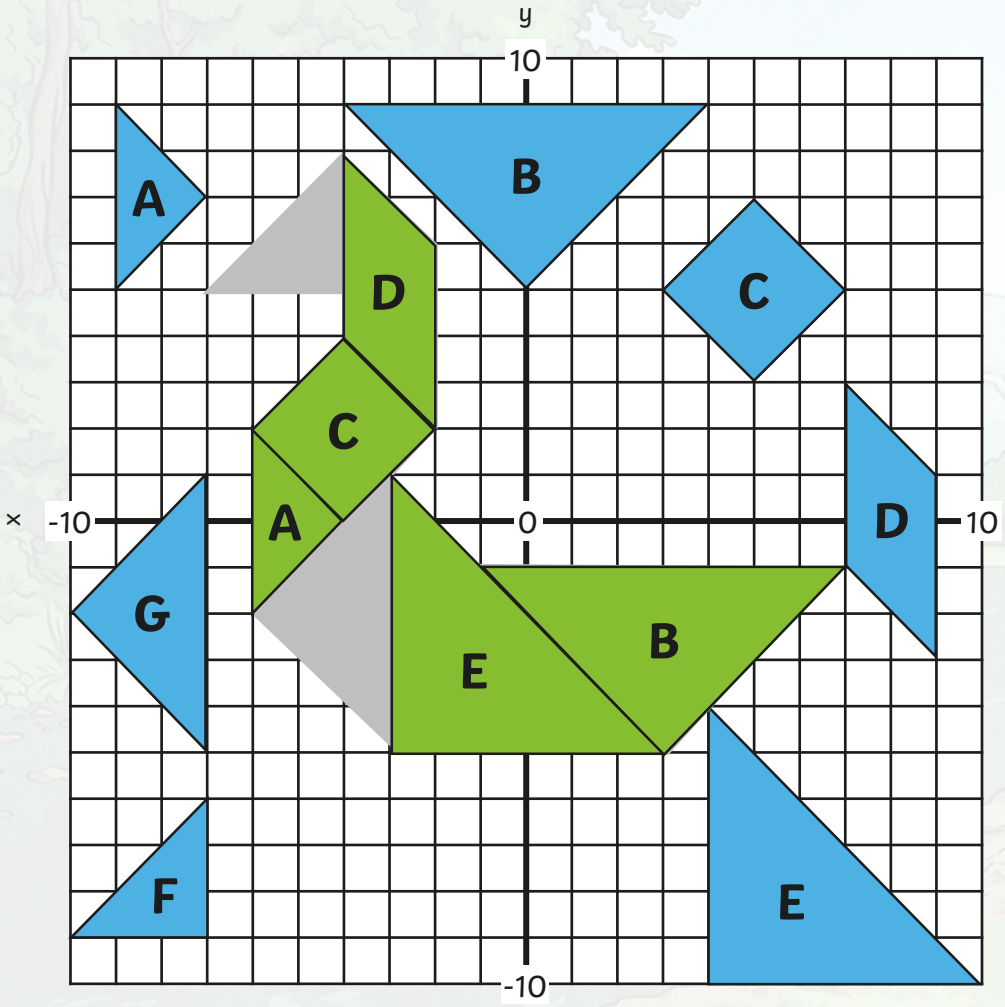


Translate each shape into position to create the shaded swan. Record your translation and the starting and finishing coordinates of the vertices.

Shape:	
Starting Coordinates:	
Translation:	
Finishing Coordinates:	

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Translations | **Deepest**

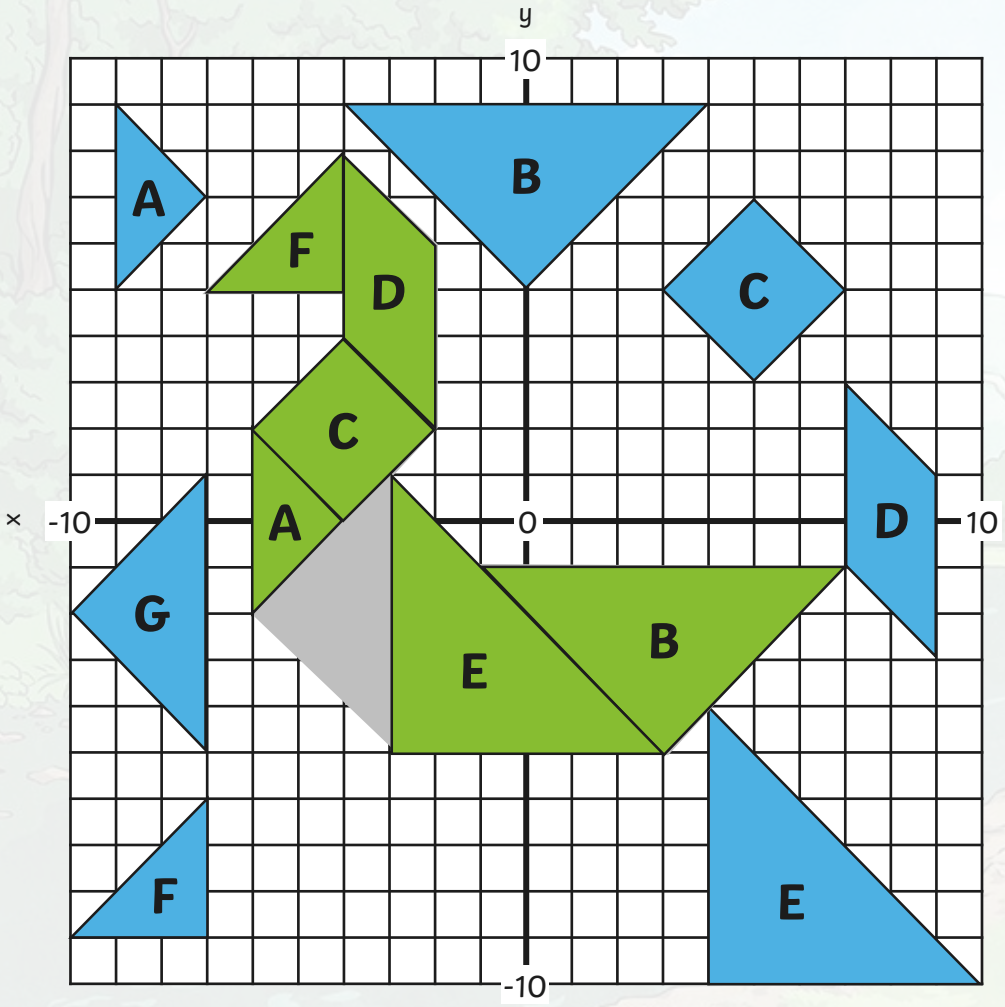


Translate each shape into position to create the shaded swan. Record your translation and the starting and finishing coordinates of the vertices.

Shape:	
Starting Coordinates:	
Translation:	
Finishing Coordinates:	

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Translations | **Deepest**

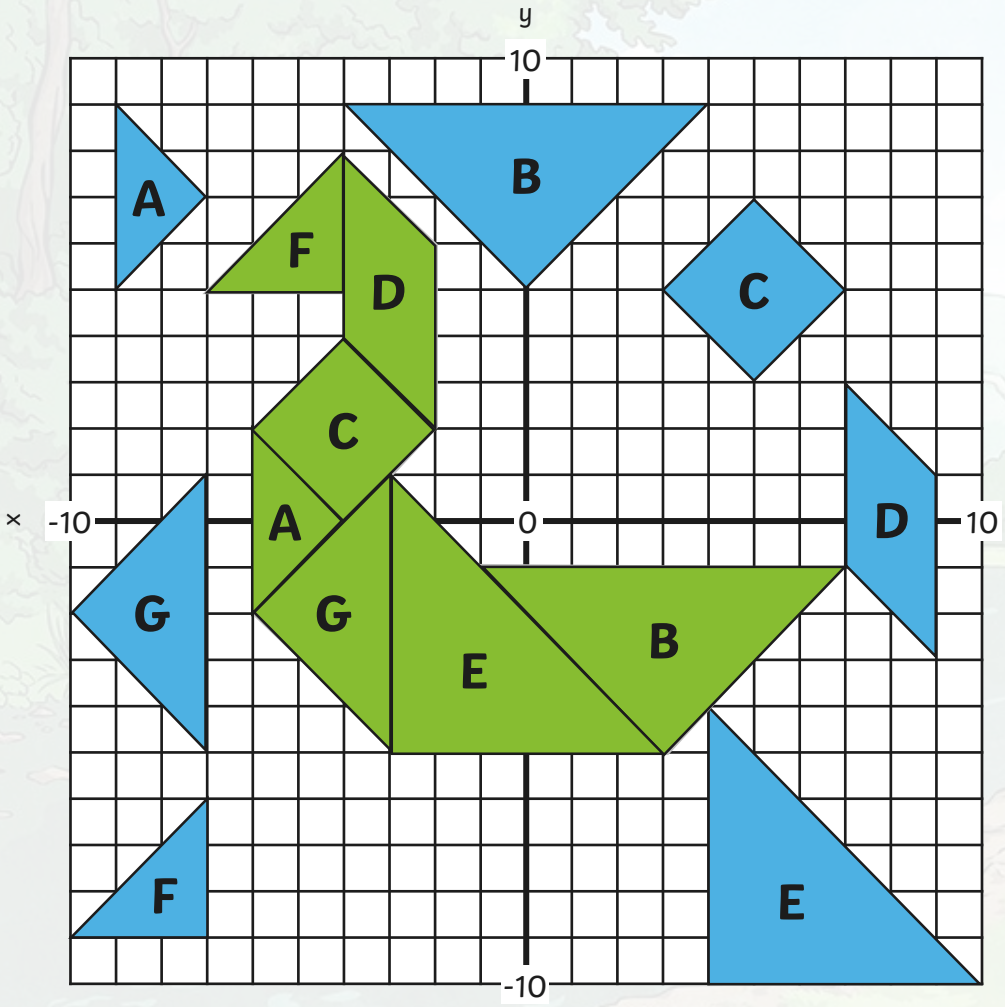


Translate each shape into position to create the shaded swan. Record your translation and the starting and finishing coordinates of the vertices.

Shape:	
Starting Coordinates:	
Translation:	
Finishing Coordinates:	

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Translations | **Deepest**



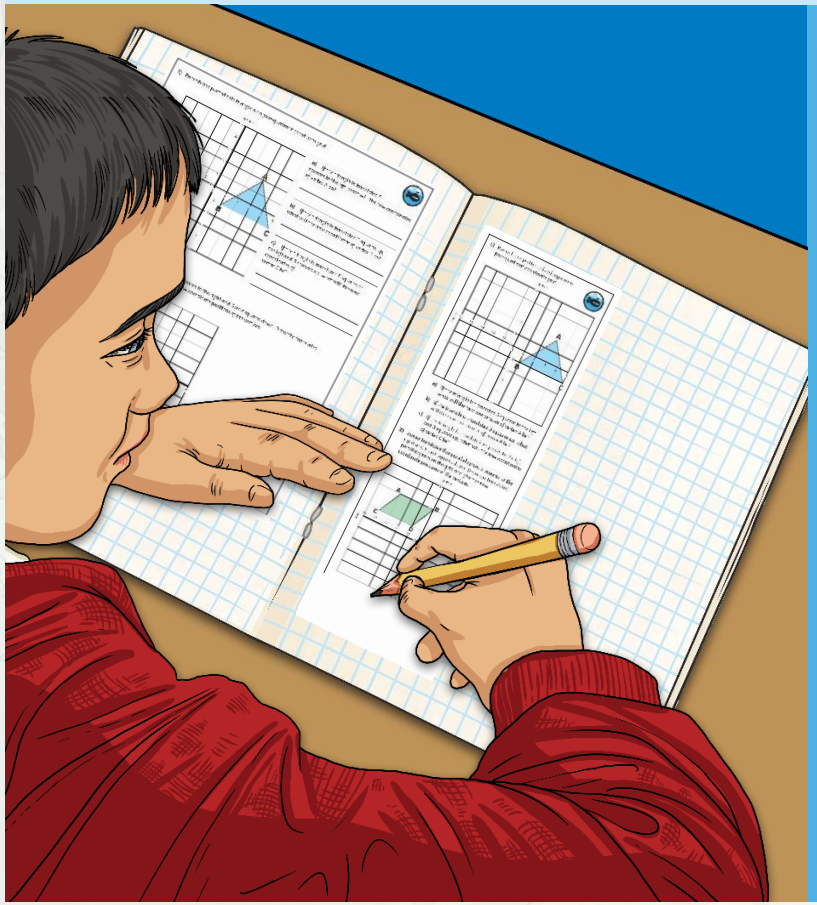
Translate each shape into position to create the shaded swan. Record your translation and the starting and finishing coordinates of the vertices.

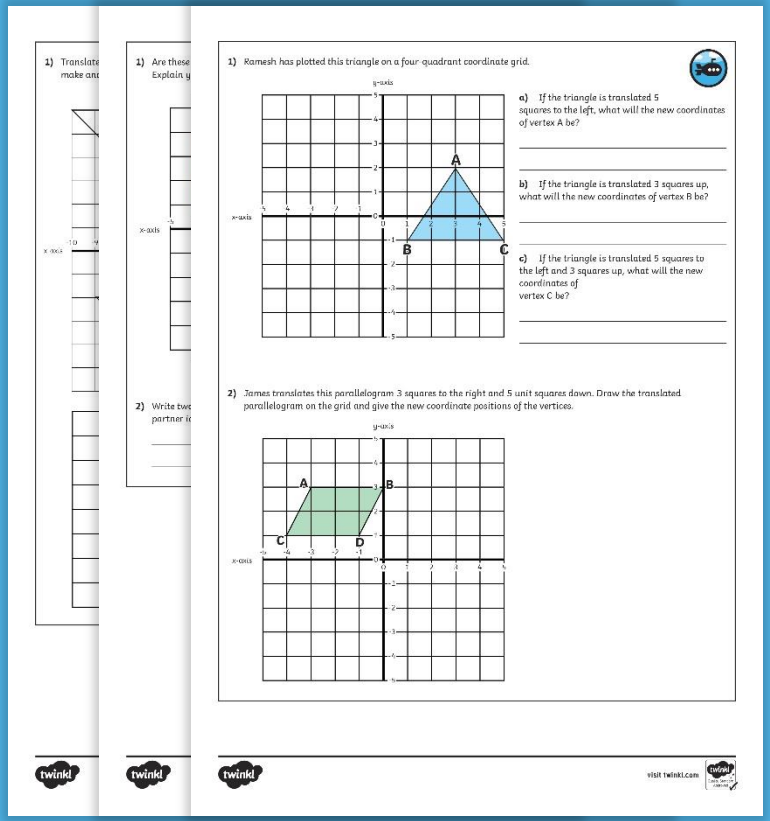
Shape:	
Starting Coordinates:	
Translation:	
Finishing Coordinates:	

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Translations

Dive in by completing your own activity!





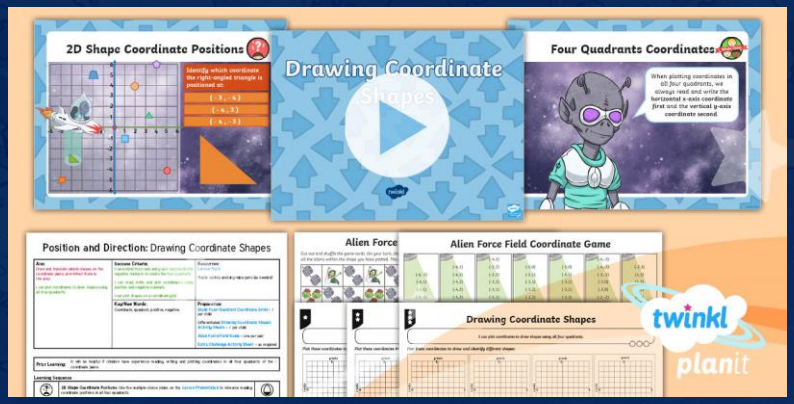
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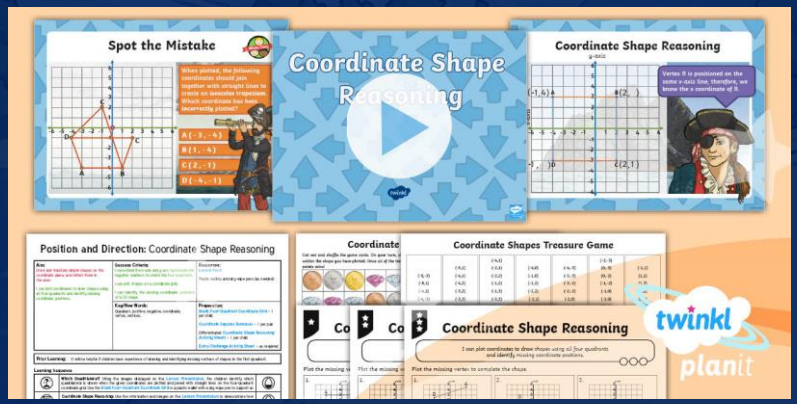
Need Planning to Complement this Resource?

National Curriculum Aim

Draw and translate simple shapes on the coordinate plane, and reflect them in the axes.

For more planning resources to support this aim, click here.





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