

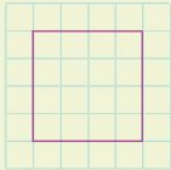
Walt understand translation and recognise the movements and translate a shape

Success criteria I can use the grid paper to count and translate the shape from its original position

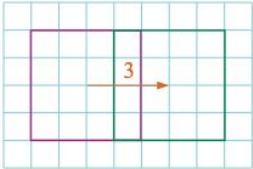
Translation

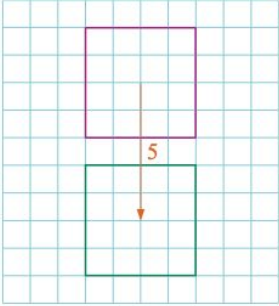
A translation is a sliding movement. It can be in any direction

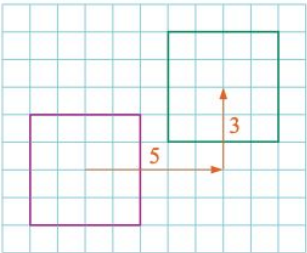
Draw this square on grid paper, make a copy and cut it out. Place the copy on top of the square and translate it as follows. In each case, draw the image on your grid paper.

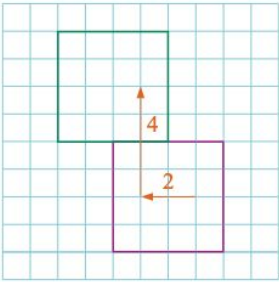


- a** 3 units right
- b** 5 units down
- c** 5 units right and 3 units up
- d** 2 units left and 4 units up

a 

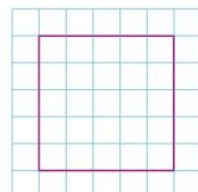
b 

c 

d 

1 Draw this square on grid paper, make a copy and cut it out. Place the copy on top of the square and translate it as follows. In each case, draw the image on your grid paper.

- a** 4 units right
- b** 3 units down
- c** 4 units right and 3 units down
- d** 3 units left and 2 units up

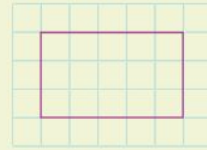


a Translate this rectangle as follows.

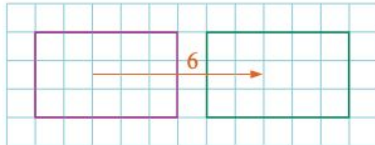
- i** 6 units right **ii** 2 units down **iii** 3 units left and 2 units down

b i Compare each image with its original. Are the matching sides the same length?

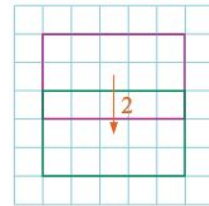
- ii** Are the matching angles the same size? **iii** Are the areas the same?



a i Move each vertex 6 units right. Join the new positions of the vertices.



ii Move each vertex 2 units down. Join the new positions of the vertices.

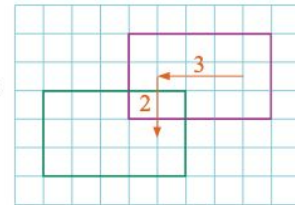


b i Yes. The length and breadth remain 5 units and 3 units.

ii Yes. All angles remain 90° .

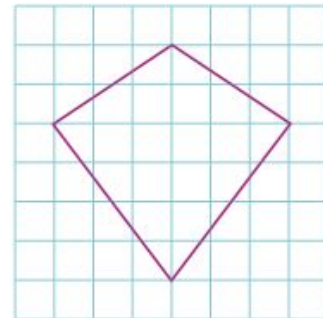
iii Yes. Area remains $5 \times 3 = 15$ square units.

iii Move each vertex 3 units left and 2 units down. Join the new positions of the vertices.



2 a Copy this kite onto grid paper and show the new position when it is translated as follows.

- i** 3 units right **ii** 2 units left
iii 3 units down **iv** 2 units up
v 1 unit right and 1 unit down
vi 2 units left and 3 units up



b Compare each image with its original.

- i** Are the matching sides the same length?
ii Are the matching angles the same size?
iii Are the areas the same?

3 a Consider the kite and its image drawn in question 2 part v. Mark a point P on the kite and translate it 1 unit right and 1 unit down. Is the new position of P on the image? Is this true for any point P on the kite?

b Consider the kite and its image drawn in question 2 part vi. Mark a point P on the kite and translate it 2 units left and 3 units up. Is the new position of P on the image? Is this true for any point P on the kite?

c Complete the statement:

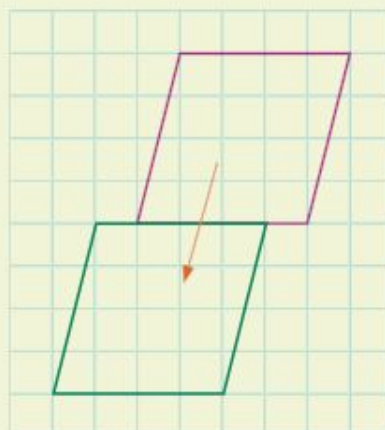
‘When a shape is translated, every point on it moves the _____ distance in the _____ direction’.

Describe the following transformations.

a



b

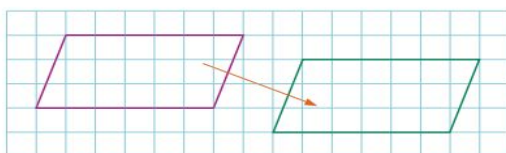


Look at each vertex of the shape and relate it to its new position.

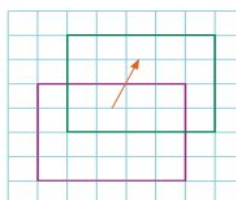
- a** Each vertex has been translated 3 units right. The parallelogram has been translated 3 units right.
- b** Each vertex has been translated 2 units left and 4 units down. The parallelogram has been translated 2 units left and 4 units down.

4 Describe the following transformations.

a



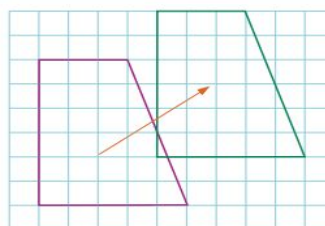
b



c



d



a Describe this transformation.

b What transformation is needed to move the image back to its original position?



a The rectangle has been translated 4 units left and 2 units down.

b The image needs to be translated 4 units right and 2 units up to return to its original position.

5 For each of the transformations shown in question 4, what transformation is needed to move the image back to its original position?