Number Nest Weekly Challenge



Warm up

1. Which of the following is **not** a transformation:

   a) Reflection b) Enlargement **c) transcription** d) translation

2. What is the new coordinate when (11 , 7) is reflected in the y-axis?

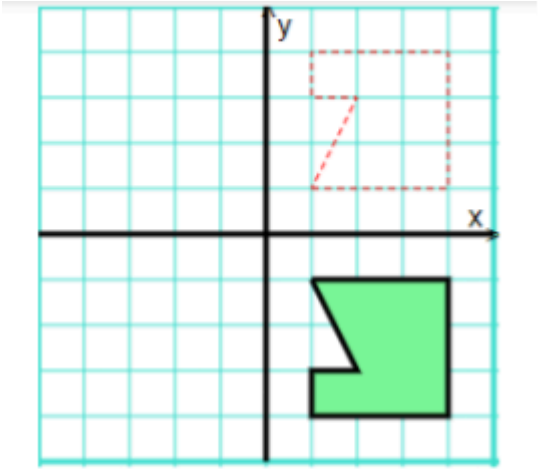
   (-11 , 7)

3. Write the translation of (0,1) to (-5, 4) in words (bonus: in column vector form):

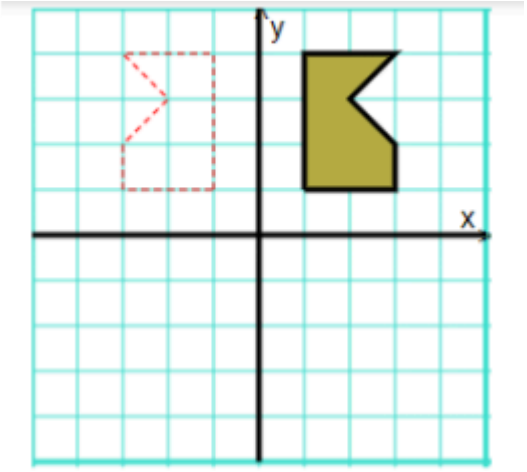
   Move left 5 spaces and up 3 spaces, $\begin{pmatrix} -5 \\ 3 \end{pmatrix}$

Activity

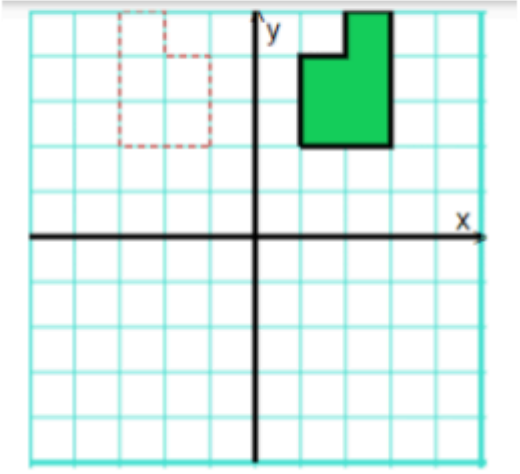
1. Draw the reflection of the following shapes:



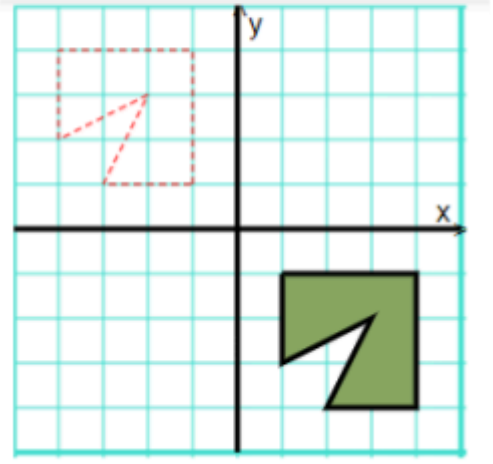
Draw the reflection of the shape in the x axis.



Draw the reflection of the shape in the y axis.



Draw the reflection of the shape in the y axis.



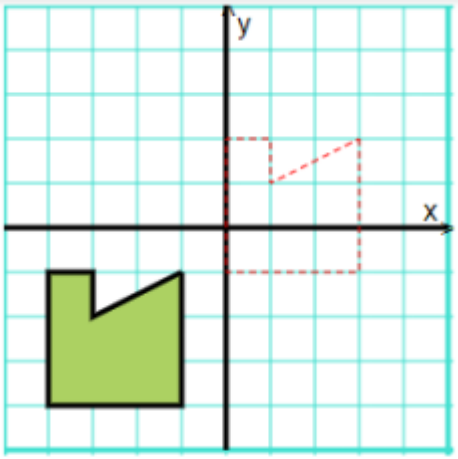
Draw the reflection of the shape in y = x

What happens to the y-coordinate and x-coordinate during a reflection in the x-axis? **(x , y) becomes (x , -y)**

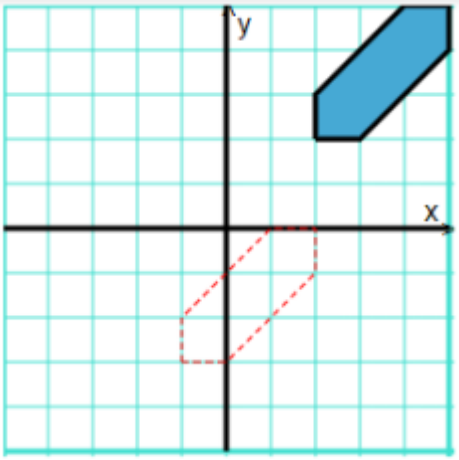
Questions sourced from Transum, Maths Sphere (puzzle)

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2. Draw the image after translation:

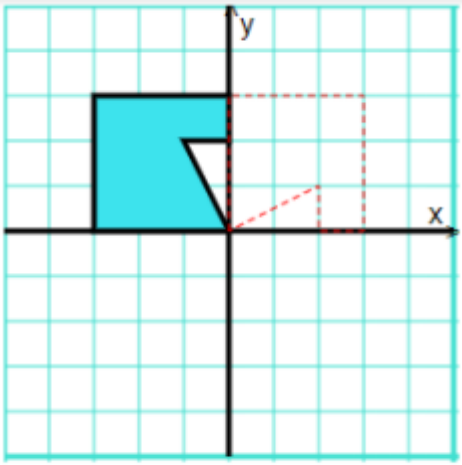


Show the image of the shape above after a translation by moving right 4 units and up 3 units

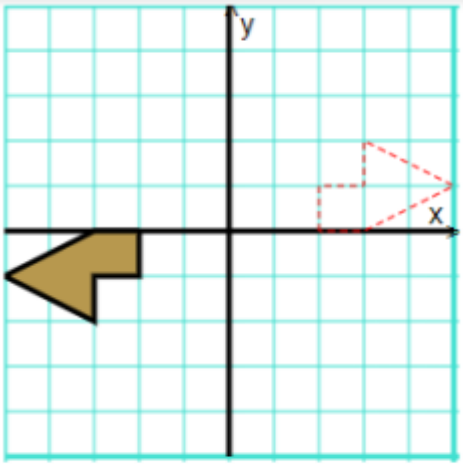


Show the image of the shape above after a translation by moving left 3 units and down 5 units

3. Draw the image after rotation:

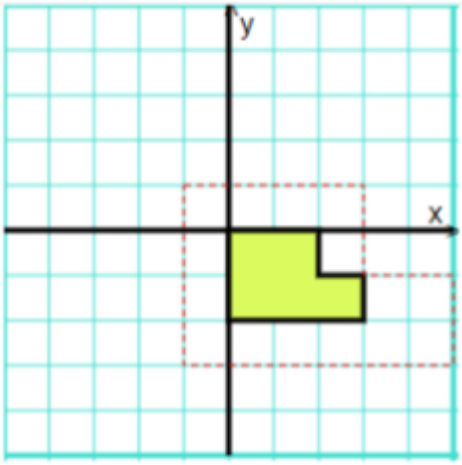


Show the image of the shape above after a rotation of 90° clockwise about the origin.

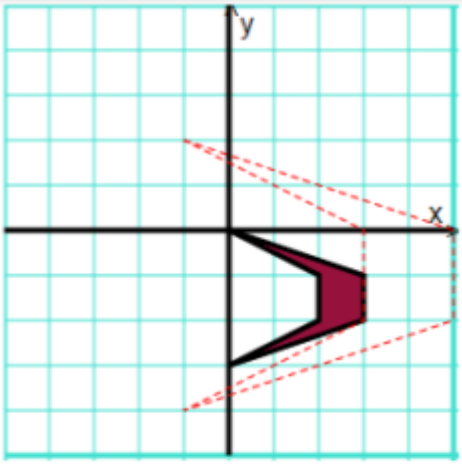


Show the image of the shape above after a rotation of 180° clockwise about the origin.

4. Draw the image after enlargement:



Show the image of the shape above after an enlargement of scale factor 2 if (1,-1) is the centre of enlargement.



Show the image of the shape above after an enlargement of scale factor 2 if (1,-2) is the centre of enlargement.

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Puzzle



Puzzle time

Dress 'Addy'

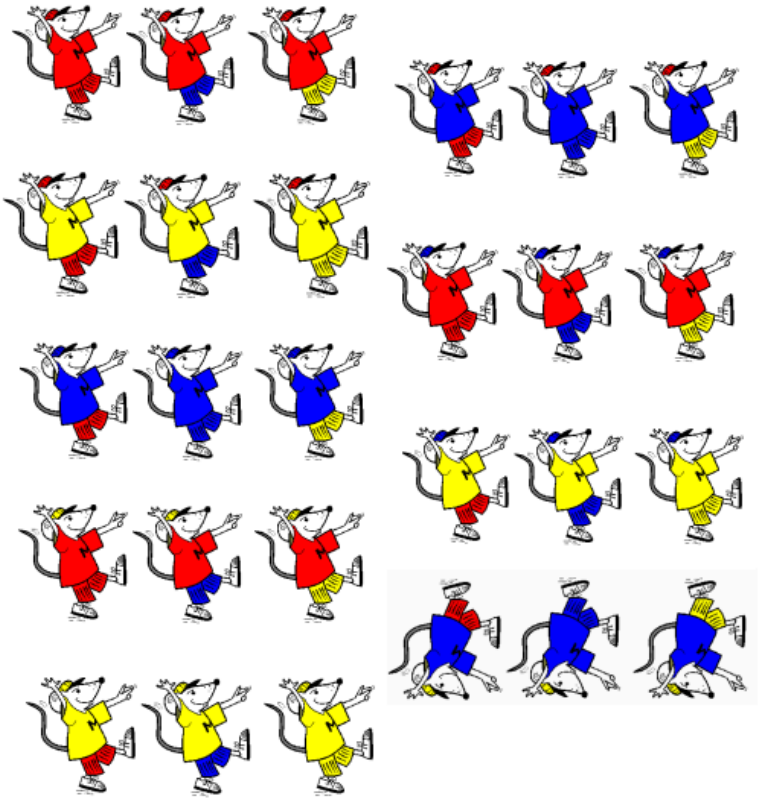
Addy likes red, blue and yellow.

He has a red, a blue and a yellow hat.
He has a red, a blue and a yellow t-shirt and he has a red, a blue and a yellow pair of shorts.



How many different ways can I dress - perhaps I could start with a red hat, red shirt and red shorts....

Andy has 3 options for his hat, 3 options for his t-shirt and 3 options for his shorts. Therefore there are 3 x 3 x 3 = 27 ways of dressing Andy!



Questions sourced from Transum, Maths Sphere (puzzle)

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