


# Unit 3 - Transformations 3-7 & 3-8



## Dilations

Today's Learning Targets:

3.7 I can perform a dilation and write a rule to describe it.

3.8 I can identify the scale factor of a given dilation.

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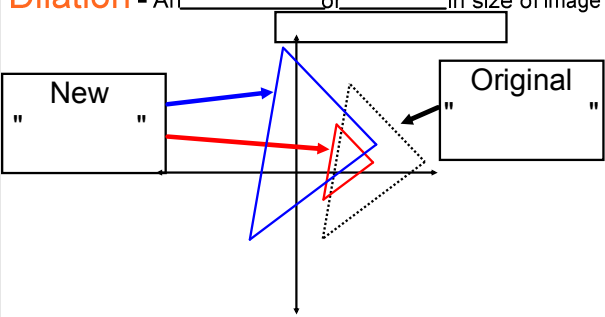
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**Dilation** - An  or  in size of image



Objective: Identify transformations including translation, rotation, reflection, and dilation

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 small	→	 BIG	<b>scale factor &gt; 1</b>
 BIG	→	 small	<b>scale factor &lt; 1</b>

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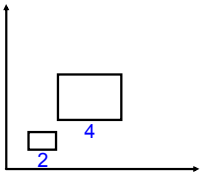
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### Unit 3 - Transformations 3-7 & 3-8

**Scale Factor** - Determines how much larger or smaller you are making the object.

$n =$



$n =$  \_\_\_

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To do a dilation...

Multiply each number of the ordered pair by the scale factor!

Writing a RULE for dilations:

$(x, y) \longrightarrow ( \quad x, \quad y )$

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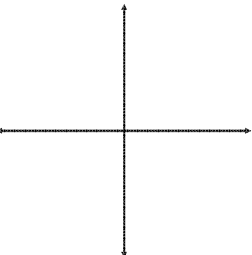
**Dilations**

Dilate the coordinates below using the graph provided with a scale factor of 4

A (-1, -2)  
B (3, -2)  
C (3, 1)  
D (-1, 1)

$(x, y) \longrightarrow (4x, 4y)$

$n = 4$



How does dilation affect the side lengths?

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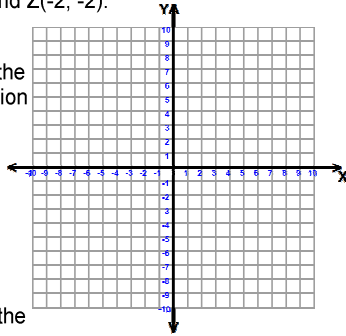
### Unit 3 - Transformations 3-7 & 3-8

(a) Graph quadrilateral WXYZ with vertices  $W(-2, 2)$ ,  $X(3, 2)$ ,  $Y(3, -2)$ , and  $Z(-2, -2)$ .

(b) Give the coordinates of the image of WXYZ after a dilation of 3.

(c) Graph the image.

(d) How does dilation affect the side lengths?



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