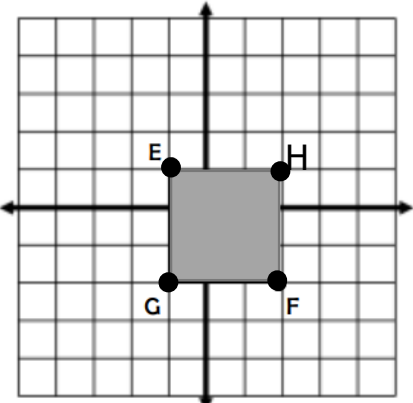


**Learning Objective(s)** \_\_\_\_\_:

<div><b>Main Ideas/ Questions</b> Dilation Characteristics</div>	<div><b>Notes</b><ul style="list-style-type: none"><li>• <b>Dilation</b> – A <b>transformation</b> that changes the _____ of a figure.</li><li>• Dilations can result in a _____ or _____ figure than the pre-image.</li><li>• ***Since dilations <b>do not</b> maintain the same distance/length between the points from the pre-image to the image, a dilation is <b>NOT</b> an _____.</li></ul><div><b>4 qualities preserved during a dilation transformation:</b><ul style="list-style-type: none"><li>✓ _____ measures</li><li>✓ Corresponding sides are _____</li><li>✓ Pre-image and image coordinates are _____ (on the same line) from the center of dilation</li></ul></div></div>
<div>How to Create a Dilation</div>	<div><ul style="list-style-type: none"><li>• Dilations need <b>two</b> things:<ol style="list-style-type: none"><li>1.</li><li>2.</li></ol></li></ul><div><b>**We often use the _____ for the center of dilation; when this happens simply <b>multiply</b> the scale factor with the _____ of each vertex**</b></div></div>
<div>Types of Dilations</div> <div>Example of Enlargement</div>	<div><ul style="list-style-type: none"><li>• An image that is <b>bigger</b> than the pre-image is called an _____</li><li>• This means the <b>scale factor</b> was _____ than 1.</li></ul><div></div><div><b><i>Find the image E'H'F'G' after a dilation centered at the origin with a scale factor of 2.</i></b></div></div>

**Main Ideas/  
Questions**

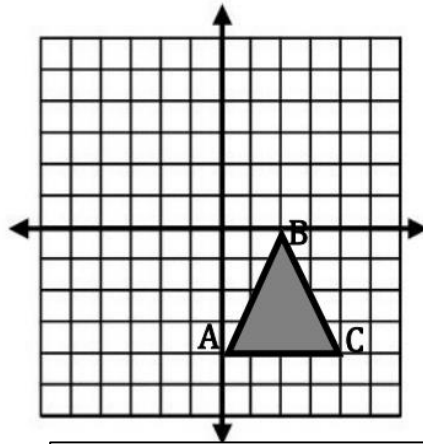
Types of Dilations

Example of  
Reduction

Special Type

**Notes**

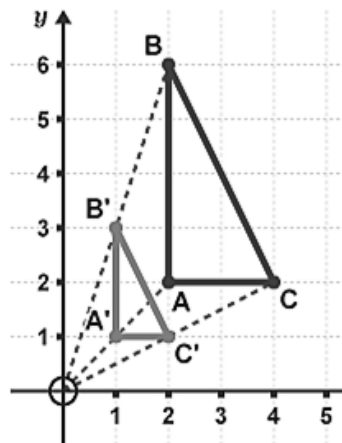
- An image that is **smaller** than the pre-image is called a \_\_\_\_\_
- This means the **scale factor** was \_\_\_\_\_ than 1.



*Find the image  $A'B'C'$  after a dilation centered at the origin with a scale factor of  $1/2$ .*

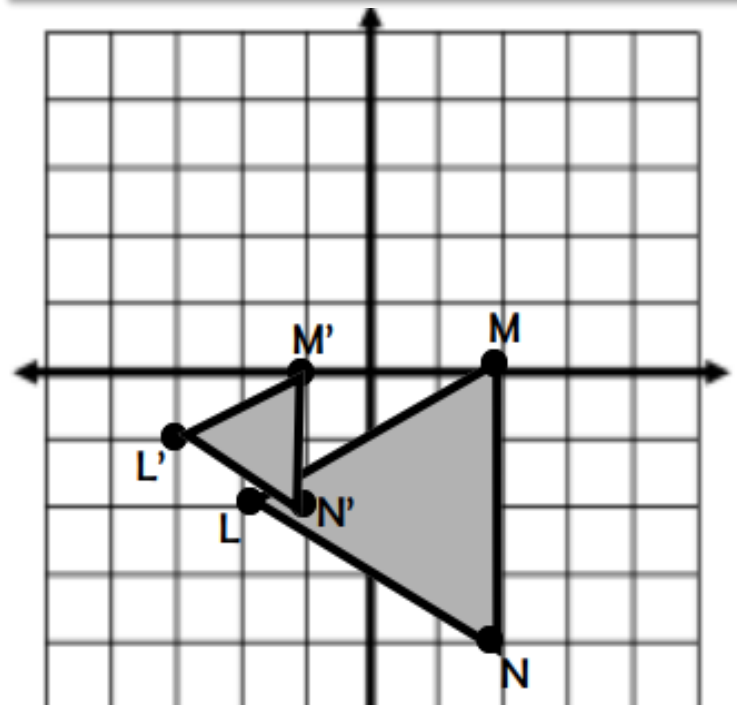
- An image that is **the same size** as the pre-image is called a \_\_\_\_\_
- This means the **scale factor** was \_\_\_\_\_ to 1.

Finding the  
Center of  
Dilation



*Connect the **corresponding** vertices with lines and find the intersection point!*

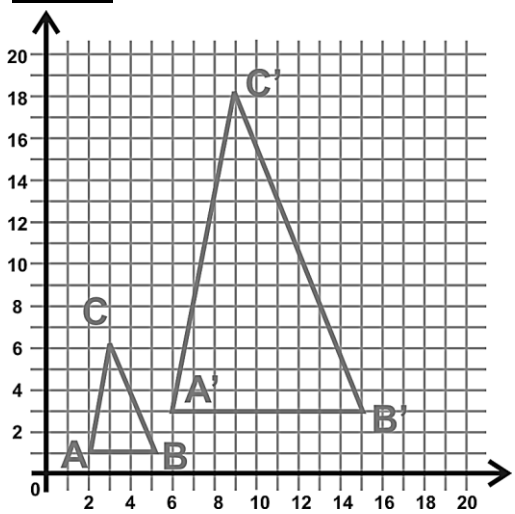
1. Find the center of dilation.
2. Calculate the scale factor.



**Main Ideas/  
Questions**

Examples

**Notes**

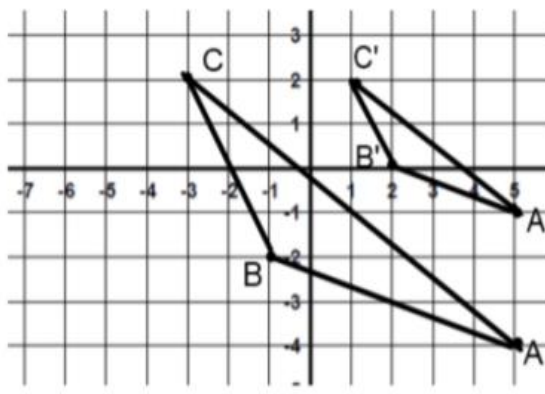


a. Find the center of dilation.

b. Calculate the scale factor.

c. Describe the type of dilation.

d. Create a rule for the dilation.



a. Find the center of dilation.

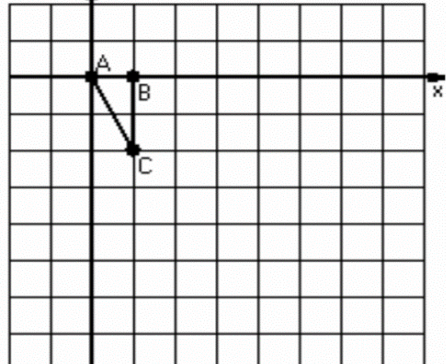
b. Calculate the scale factor.

c. Describe the type of dilation.

d. Create a rule for the dilation.

**3. Graph the image using the dilation and center of dilation.**

Dilation = 2, center D(0, -1)



**4. Complete the coordinates of the image after a dilation of scale factor  $k$  centered at the origin.**

A(1, 1) B(3, 1) and C(-2, -3);  
 $k = 3$

**Summary**

Summarize the lesson in your own words with the help of the guided questions.

*How does a dilation transform a figure? Why is a dilation not considered an isometry? How is a dilation rule written and applied?*