Dilations Investigation—Student Activity

Name: _____ Geometry

Dilations – Part I

1. On the picture below, draw rays from O through each vertex of ΔABC.
2. Use Ruler to measure the length of $\overline{OA}$. Place A' on OA so that $OA' = 2 \bullet OA$
3. Use the same process to find B' and C'.
4. Draw $\Delta A'B'C'$.
5. Trace ΔABC on a piece of patty paper. Compare the angles of ΔABC with the angles of $\Delta A'B'C'$. What do you notice about the angle measures? _____
6. Use a ruler to find the following lengths in centimeters.
   a. $AB =$ _____ d. $A'B' =$ _____
   b. $BC =$ _____ e. $B'C' =$ _____
   c. $AC =$ _____ f. $A'C' =$ _____
7. What do you notice about the lengths of the sides of the two triangles? _____
8. The **Scale Factor** for this dilation is _____.

9. Write the ordered pairs next to each vertex on the grid paper and in Table 1 below. What do you notice about these ordered pairs?

_____

_____

10. Dilate ΔABC using a scale factor of 3 on your grid paper. Label the new triangle $\Delta A'B'C'$. Write the ordered pairs next to each vertex and in Table 1 below.

11. Dilate ΔABC using a scale factor of $\frac{1}{2}$ on your grid paper. Label the triangle $\Delta A'B'C'$. Write the ordered pairs next to each vertex and in Table 1 below.

Table 1 – Ordered Pairs

Original Triangle		Dilation (Scale Factor of 2)		Dilation (Scale Factor of 3)		Dilation (Scale Factor of $\frac{1}{2}$)	
A		A'		A''		A'''	
B		B'		B''		B'''	
C		C'		C''		C'''	

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