P.S. #6.3 - Dilations
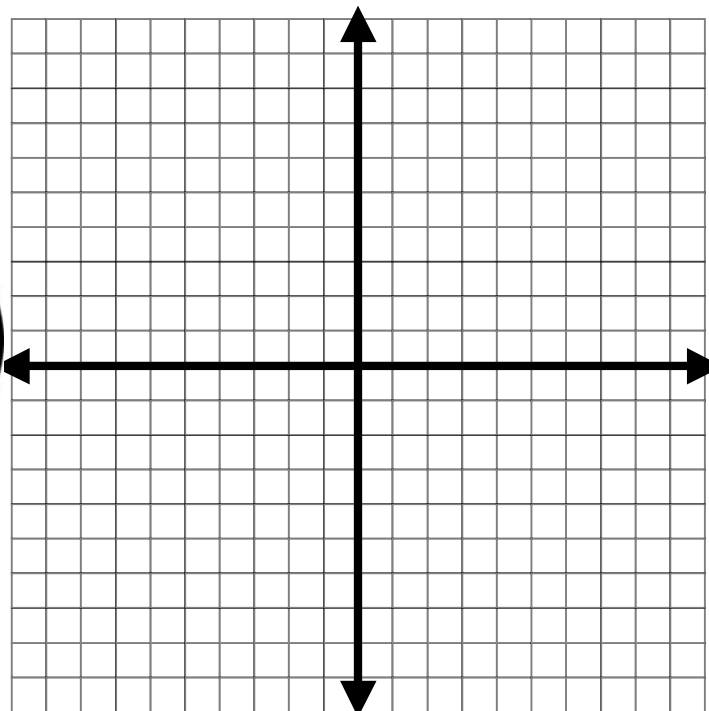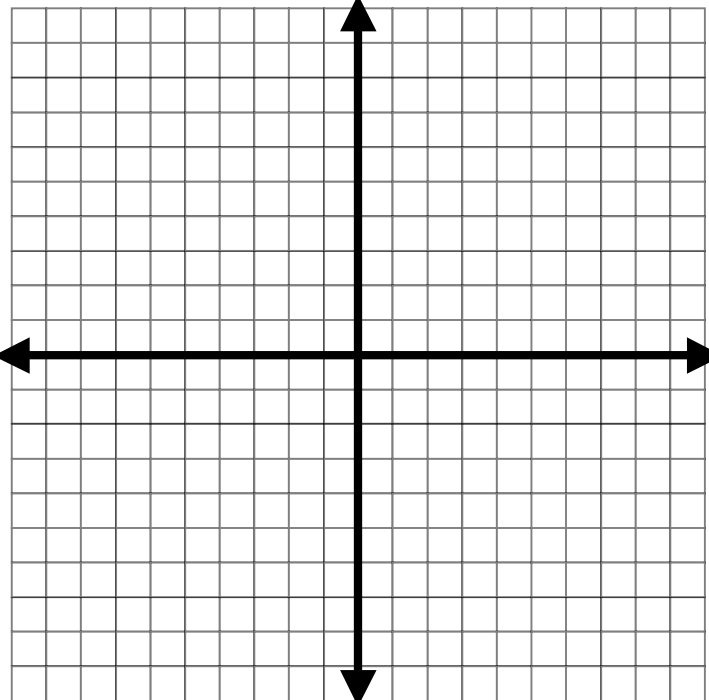
Name: _____ Class: _____

1.) Graph ΔCAM with coordinates C(1,1), A(3,1), and M(1,4). Then graph ΔC'A'M' after a dilation of scale factor 2. Write the coordinates of ΔC'A'M'.

2.) Graph pentagon JAKOB with coordinates J(8,0), A(4,4), K(-8,4), O(-4,-4), and B(4,-8). Then graph pentagon J'A'K'O'B' after a dilation of scale factor ¼. Write the coordinates of pentagon J'A'K'O'B'.
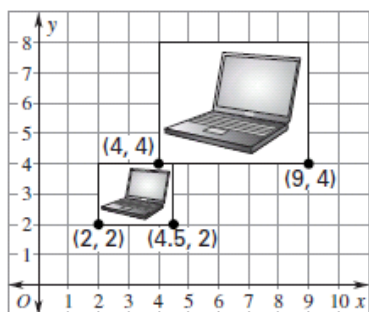
3.) What is the scale factor of a dilation that maps $(7,9) \rightarrow (56,72)$?

4.) If the perimeter of a rectangle is 12 and it is dilated with a scale factor of 3, what is the perimeter of the new rectangle? _____
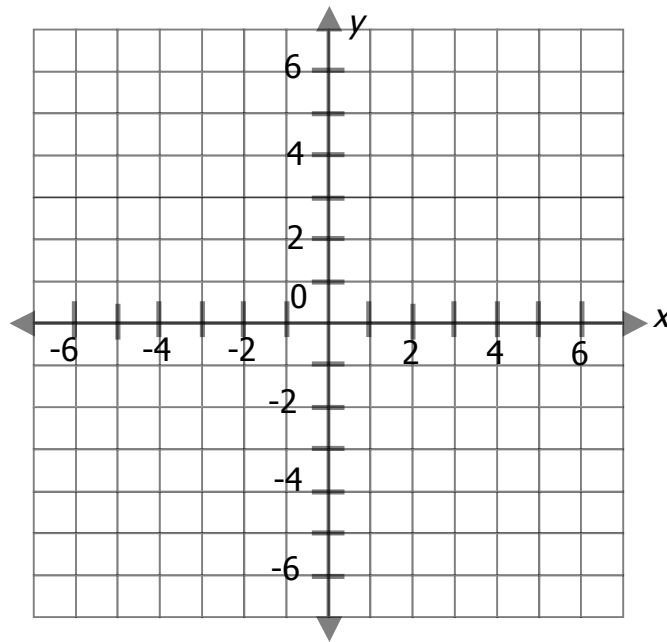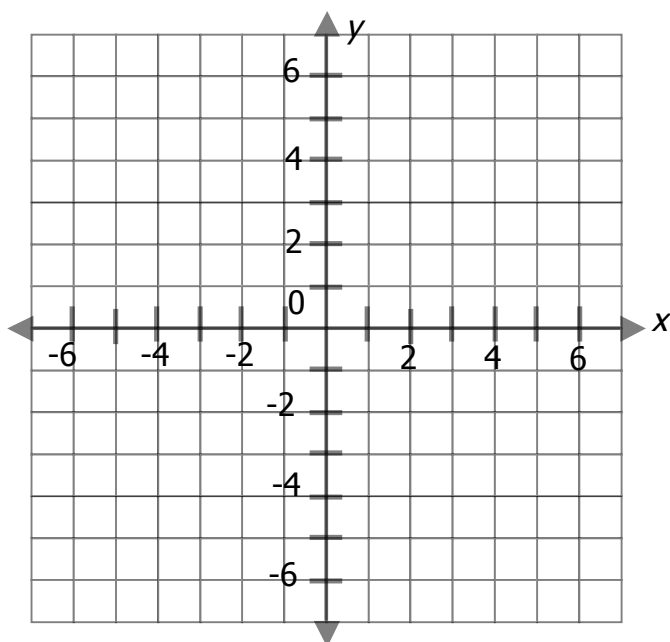
5.) If the side of a triangle is 20 and it is dilated with a scale factor of $\frac{1}{5}$, what is the side of the new triangle? _____

6.) Solve for x. $3(2 - x) = 8(x - 2)$

7.) Taylor uses a computer program to shrink a picture, as shown. What is the scale factor of dilation?

8.) Draw ΔABC with coordinates A(-2,1), B(-7,1), and C(-4,3). Then, draw the reflection of ΔABC in the line $y = -x$. Label the vertices of each image. What are the new coordinates?

9.) Graph trapezoid *LINA* L(-6,6), I(-3,-3), N(3,-3), A(6,6). Then graph it under a dilation with a scale factor of $\frac{2}{3}$.

10.) Multiply and express the answer in scientific notation.

$(5.3 \times 10^8)(4.7 \times 10^9)$