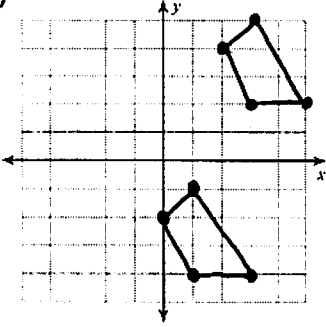
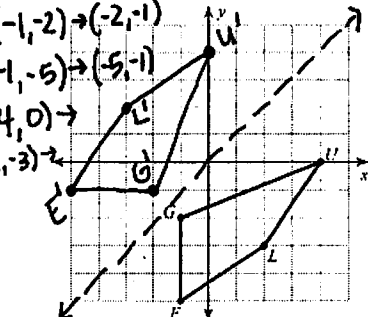
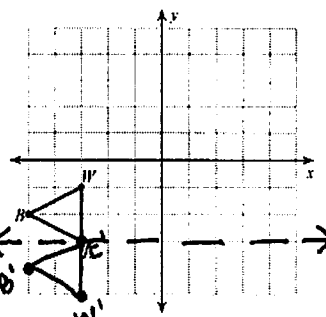
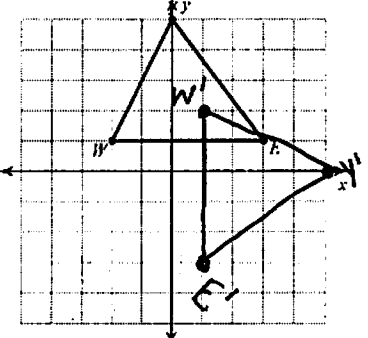
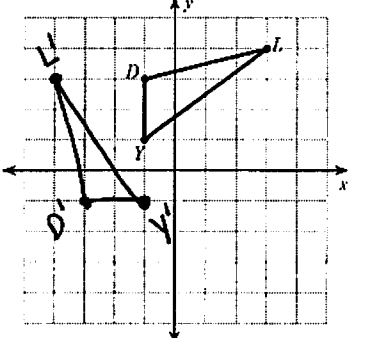
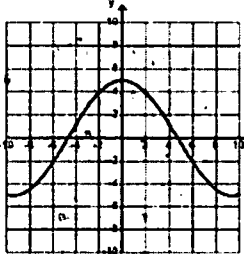
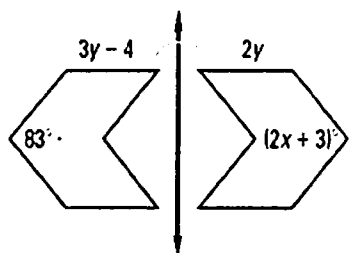
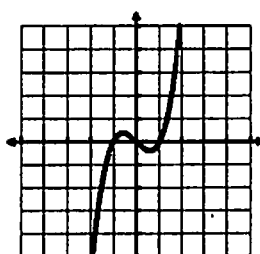
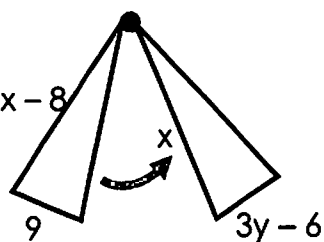


Final Exam Review – Unit 5

Name ANSWER KEY

Class Period _____

What you need to know & be able to do	Things to remember	Problem	Problem
Translations	<ul style="list-style-type: none"> Find the new coordinates by adding/ subtracting the given value. Find the pre-image by doing the OPPOSITE. 	<p>1. Translate the following points by the rule: $(x, y) \rightarrow (x+1, y-4)$</p> <p>$S(-5, 2) \rightarrow S'(-4, -2)$ $Y(-4, 5) \rightarrow Y'(-3, 1)$ $R(-1, 1) \rightarrow R'(0, -3)$ $A(-4, -2) \rightarrow A'(-3, -6)$</p>	<p>2. Translation: $(x, y) \rightarrow (x-2, y-6)$ $W(3, 2)$ $C(2, 4)$ $T(3, 5)$ $Z(5, 2)$ $W'(1, -4)$ $C'(0, -2)$ $T'(1, -1)$ $Z'(3, -4)$</p> 
Reflections	<ul style="list-style-type: none"> Reflection over x-axis: $(x, -y)$ Reflection over y-axis: $(-x, y)$ Reflection over $y = x$: (y, x) Reflections over $y = -x$: $(-y, -x)$ Reflection over any other line: PROTECT THE DISTANCE 	<p>3. Reflection over $y = x$</p> <p>$(-1, -2) \rightarrow (-2, -1)$ $(-1, -5) \rightarrow (-5, -1)$ $(4, 0) \rightarrow (0, 4)$ $(2, -3) \rightarrow (-3, 2)$</p> 	<p>4. Reflection over $y = -3$</p> 
Rotations	<ul style="list-style-type: none"> 90CW/270CCW: $(y, -x)$ 180: $(-x, -y)$ 90CCW/270CW: $(-y, x)$ 	<p>5. Rotate the figure 90 CW</p> 	<p>6. Rotate the figure 90 CCW</p> 
Dilations	<ul style="list-style-type: none"> Multiply the coordinates by the given scale factor (k) 	<p>7. Find the coordinates of the new vertices of the image that has been dilated by a factor of 5.</p> <p>$S(-5, 2) \rightarrow S'(-25, 10)$ $Y(-4, 5) \rightarrow Y'(-20, 25)$ $R(-1, 1) \rightarrow R'(-5, 5)$ $A(-4, -2) \rightarrow A'(-20, -10)$</p>	<p>8. Find the coordinates of the new vertices of the image that has been dilated by a factor of 1/2.</p> <p>$W(3, 2) \rightarrow W'(3/2, 1)$ $C(2, 4) \rightarrow C'(1, 2)$ $T(3, 5) \rightarrow T'(3/2, 5/2)$ $Z(5, 2) \rightarrow Z'(5/2, 1)$</p>

<p>Glide Reflections and Combinations of Transformations.</p>	<ul style="list-style-type: none"> Glide Reflection: Translation and Reflection Rotation and Reflection ORDER IS IMPORTANT Use the <i>previous</i> ordered pairs to do the next transformation. 	<p>9. Given the points M (-3, 1) S (5, -2)</p> <p>Translate: $(x - 3, y + 2)$ Reflect: $y = -x$</p> <p>$M' \rightarrow (-6, 3)$ $S' \rightarrow (2, 0)$</p> <p>$M'' \rightarrow (-3, 6)$ $S'' \rightarrow (0, -2)$</p>	<p>10. Given the points K (0, -4) P (-6, -3) R (1, 2)</p> <p>Reflect: over the x-axis Rotate: 270 CCW</p> <p>$K' \rightarrow (0, 4)$ $P' \rightarrow (-6, 3)$ $R' \rightarrow (1, -2)$</p> <p>$K'' \rightarrow (4, 0)$ $P'' \rightarrow (3, 6)$ $R'' \rightarrow (-2, -1)$</p>
<p>Even, Odd or Neither</p>	<ul style="list-style-type: none"> Even = Reflection over the y-axis OR all even exponents (don't forget constants) Odd = 180° Rotation through the origin OR all odd exponents (don't forget x) 	<p>11. $f(x) = 5x^3 - 2x^1$</p> <p>Odd</p>	<p>12. $f(x) = -3x^4 + 2x^2 + x^1 - 2x^0$</p> <p>Neither</p>
<p>Solving Isometries</p>	<ul style="list-style-type: none"> Set congruent parts equal to each other to solve for the given variables 	<p>13. </p> <p>Even</p> <p>15. </p> $\begin{array}{r} 3y + 4 = 2y \\ +4 \quad +4 \\ \hline 3y = 2y + 4 \\ -2y \quad -2y \\ \hline y = 4 \end{array}$	<p>14. </p> <p>Odd</p> <p>16. </p> $\begin{array}{r} 5x + 8 = x \\ +8 \quad +8 \\ \hline 5x = x + 8 \\ -x \quad -x \\ \hline 4x = 8 \\ \frac{4x}{4} = \frac{8}{4} \\ \hline x = 2 \end{array}$ $\begin{array}{r} 9 = 3y + 6 \\ +6 \quad +6 \\ \hline 15 = 3y \\ \frac{15}{3} = \frac{3y}{3} \\ \hline y = 5 \end{array}$

$$\begin{array}{r} 83 = 2x + 3 \\ -3 \quad -3 \\ \hline 80 = 2x \\ \frac{80}{2} = \frac{2x}{2} \quad \boxed{x = 40} \end{array}$$

$$\begin{array}{r} 5x = x + 8 \\ -x \quad -x \\ \hline 4x = 8 \\ \frac{4x}{4} = \frac{8}{4} \\ \hline \boxed{x = 2} \end{array}$$

$$\begin{array}{r} 15 = 3y \\ \frac{15}{3} = \frac{3y}{3} \\ \hline \boxed{y = 5} \end{array}$$