## Final Exam Review – Unit 5

Name\_\_\_\_\_ Class Period\_\_\_\_\_

What you need to know & be able to do	Things to remember	Problem	Problem
Translations	<ul> <li>Find the new coordinates by adding/ subtracting the given value.</li> <li>Find the pre-image by doing the OPPOSITE.</li> </ul>	1. Translate the following points by the rule: $x,y \rightarrow x+1,y-4$	2. Translation: $(x, y) \rightarrow (x - 2, y - 6)$ W(3, 2) C(2, 4) T(3, 5) Z(5,2)
		$S (-5, 2) \rightarrow$ $Y (-4, 5) \rightarrow$ $R (-1, 1) \rightarrow$ $A (-4, -2) \rightarrow$	
Reflections	<ul> <li>Reflection over x-axis: (x, -y)</li> <li>Reflection over y-axis: (-x, y)</li> <li>Reflection over y = x: (y, x)</li> <li>Reflections over y = -x: (-y, -x)</li> <li>Reflection over any other line: PROTECT THE DISTANCE</li> </ul>	3. Reflection over $y = x$	4. Reflection over $y = -3$
Rotations	<ul> <li>90CW/270CCW: (y, -x)</li> <li>180: (-x, -y)</li> <li>90CCW/270CW: (-y, x)</li> </ul>	5. Rotate the figure 90 CW	6. Rotate the figure 90 CCW
Dilations	<ul> <li>Multiply the coordinates by the given scale factor (k)</li> </ul>	<ul> <li>7. Find the coordinates of the new vertices of the image that has been dilated by a factor of 5.</li> <li>S(-5, 2)→</li> <li>Y (-4, 5)→</li> <li>R (-1, 1)→</li> <li>A (-4, -2)→</li> </ul>	<ul> <li>8. Find the coordinates of the new vertices of the image that has been dilated by a factor of 1/2.</li> <li>W(3, 2)→</li> <li>C(2, 4)→</li> <li>T (3, 5)→</li> <li>Z (5, 2)→</li> </ul>

Glide Reflections and Combinations of Transformations	<ul> <li>Glide Reflection: Translation and Reflection</li> <li>Rotation and Reflection</li> <li>ORDER IS IMPORTANT</li> <li>Use the previous ordered pairs to do the next transformation.</li> </ul>	<ul> <li>9. Given the points <ul> <li>M (-3, 1) S (5, -2)</li> <li>Translate: (x - 3, y + 2)</li> <li>Reflect: y = -x</li> </ul> </li> <li>M' → <ul> <li>S' →</li> <li>M'' →</li> <li>S'' →</li> </ul> </li> </ul>	10. Given the points K(0, -4) P(-6, -3) R(1, 2) Reflect: over the x-axis Rotate: 270 CCW $K' \rightarrow$ $P' \rightarrow$ $R' \rightarrow$ $K'' \rightarrow$ $R'' \rightarrow$ $R'' \rightarrow$
Even, Odd or Neither	<ul> <li>Even = Reflection over the y-axis OR all even exponents (don't forget constants)</li> <li>Odd = 180° Rotation through the origin OR all odd exponents (don't forget x)</li> </ul>	11. $f(x) = 5x^3 - 2x$ 13. $y = 5x^3 - 2x$	12. $f(x) = -3x^4 + 2x^2 + x - 2$
Solving Isometries	<ul> <li>Set congruent parts equal to each other to solve for the given variables</li> </ul>	15. 3y-4 $(2x+3)^{\circ}$	16. $5x - 8$ $x$ $3y - 6$