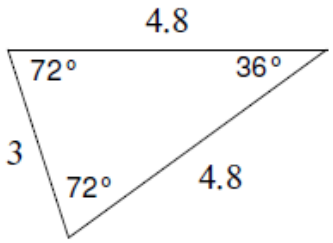
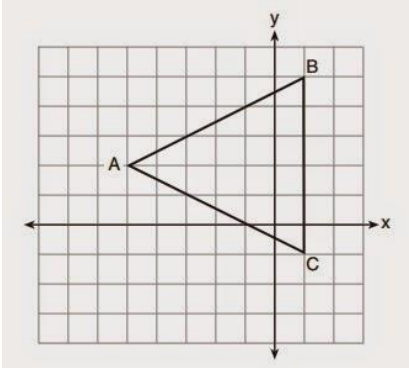
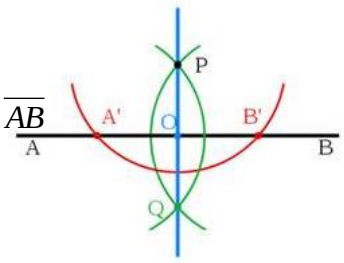
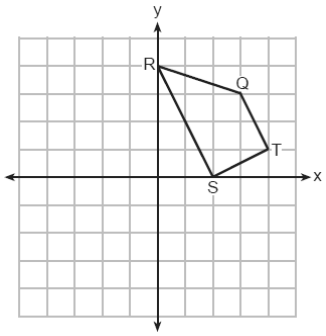
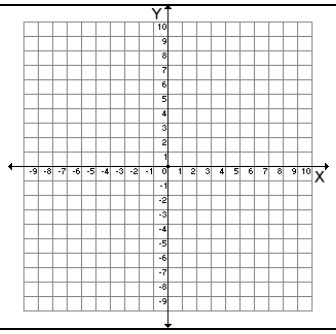
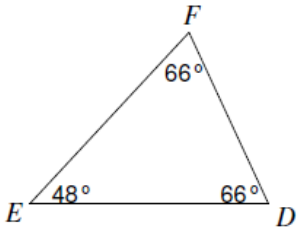
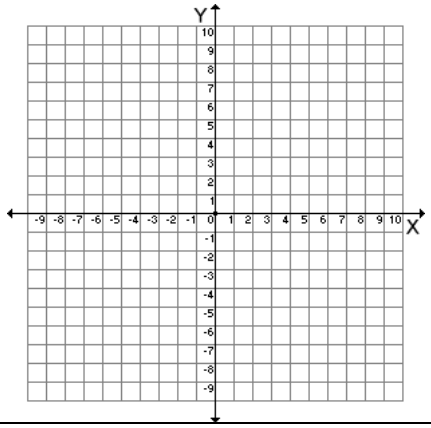
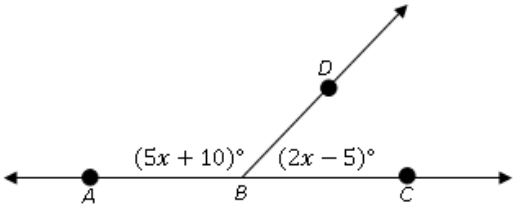
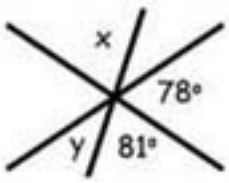
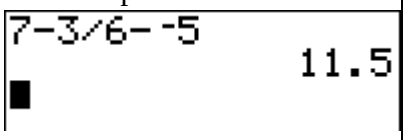
Name _____ **DUE DATE:** _____

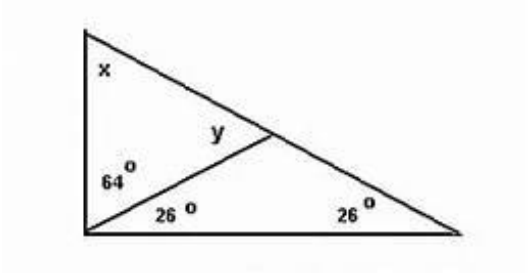
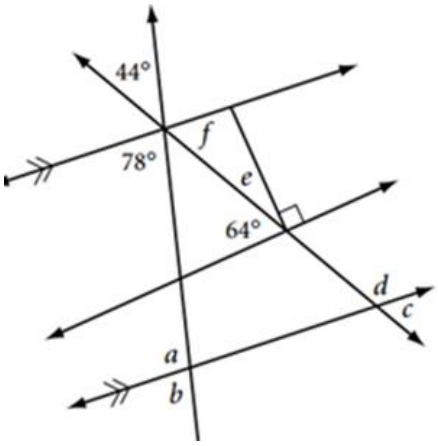
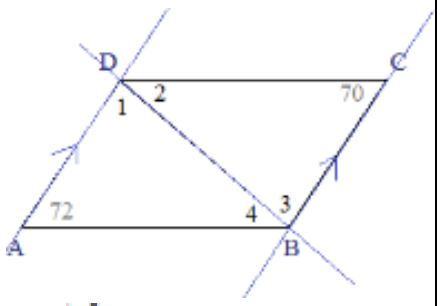
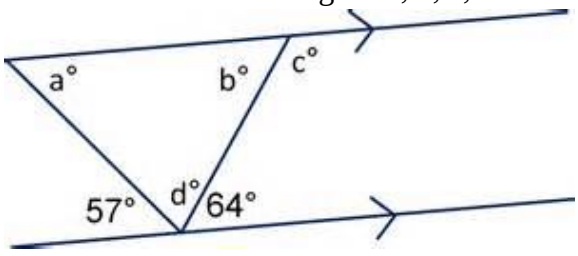
Geometry Regents Review #3

Directions: ***Choose the best answer. Answer ALL questions.*** **Show ALL work in column 2. If there is no mathematical work to be shown, write an explanation or definition to support your answer! This counts as a 20 point quiz grade!!!**

1. Classify the triangle by its sides. 1) Acute 2) Equilateral 3) Scalene 4) Isosceles  	**Explain your choice!**
2. Triangle ABC is graphed on the set of axes below. What are the coordinates of the point of intersection of the medians of triangle ABC? 1) (1, 2) 2) (-2,1) 3)(-1, 2) 4) (-2, ½)  	**Show work on the graph!**
3. The image of rhombus *VWXY* preserves which properties under the computations transformation $T_{2,-3}$? 1. parallelism, only 2. orientation, only 3. both parallelism and orientation 4. neither parallelism nor orientation	**Show work!**
4. Identify the construction. 1. altitude of a triangle 2. median of a triangle 3. perpendicular bisector of $\overline{AB}$ 4. perpendicular to $\overline{AB}$  	**Explain your choice!**

5. If a line segment has endpoints $A(3x+5, 3y)$ and $B(x-1, -y)$, what are the coordinates of the midpoint of $\overline{AB}$? 1) $(x+3, 2y)$ 2) $(2x+2, y)$ 3) $(2x+3, y)$ 4) $(4x+4, 2y)$	**Show work**
6. Trapezoid *QRST* is graphed on the set of axes below.  Under which transformation will there be *no* invariant points? **1.** $r_{y=0}$ **2.** $r_{x=0}$ **3.** $r_{(0,0)}$ 4. $r_{y=x}$	**Show work and/or Explain**
7. After the transformation $r_{y=x}$, the image of ΔABC is $\Delta A'B'C'$. If $AB = 2x + 13$ and $A'B' = 9x - 8$, find the value of x. 1. 16 2. 5 3. 3 4. 5/7	**Show work**
8. What are the coordinates of P', the image of point P(x,y) after translation $T_{4,4}$? (1) (x - 4,y - 4) (2) (x + 4,y + 4) (3) (4x,4y) (4) (4, 4)	**Show work /and or Explain**
9. What is the image of the point (–6, 1) after the reflection over the line $y = 2$? 1. (–4, 1) 2. (10, 1) 3. (–6, 3) 4. (–4, 3)	
10. A reflection in the origin is equivalent to 1) a translation 2) glide reflection 3) $R_{O,90}$ 4) $R_{O,180}$	**Show work and /or Explain your choice**

11. Name the shortest side. 1) $\overline{EF}$ 2) $\overline{DF}$ 3) $\overline{DE}$ 4) none of the above 	**Show work**
12. What is the image of point $A(4,2)$ after the composition of transformations defined by $R_{90°} \circ r_{y=x}$? 1. (−4,2) 2. (4, -2) 3. (-4, -2) 4. (2, -4) 	**Show work**
13. Find the measure of angle DBC. 1) 25 2) 45 3) 135 4) 55 	**Show work**
14. Find the values of x and y. 1) x= 81 y= 21 2) x= 21 y= 81 3) x= 78 y= 24 4) x= 81 y= 9 	**Show work**
15. A student enters the following information into his/her calculator when attempting to find the slope between the points (6,7) and (-5,3). Which of the following statements is TRUE?  [1] The student is correct, the slope is 11.5. [2] The slope formula does not involve subtraction. [3] The slope is actually -11.5. [4] The slope is actually 4/11.	**Explain and/or show work**

16. Find the value of x and y.  	**Explain and/or show work**
17. **Find the measures of angles a, b, c, d, e and f.**  	**Show work (You may show work on the diagram!** $m\angle a =$ _____ $m\angle b =$ _____ $m\angle c =$ _____ $m\angle d =$ _____ $m\angle e =$ _____ $m\angle f =$ _____
18. **As a construction manager, you are asked to build a new road, which crosses the point (1,1) There is another road already built, which can be expressed as $y=3x-2$. You are asked to build your road such that it crosses this road at a perpendicular angle.** **Find the correct value for *m* and *b* in the following equation of your road. y= mx +b** **Round any decimals to the nearest hundredth.**	**Show work**
19. Given $\overline{AD} \parallel \overline{BC}$ $m\angle 1 = 5.8x + 2.2$ $m\angle 2 = 4x$ $m\angle 3 = 6.4x - 4.4$ $m\angle 4 = 42$  Are $\overline{DC}$ and $\overline{AB}$ parallel segments?	**Show Work and explain your answer!**
20.Find the measures of all labeled angles: a, b, c, and.  	**Show work! Label diagram!**