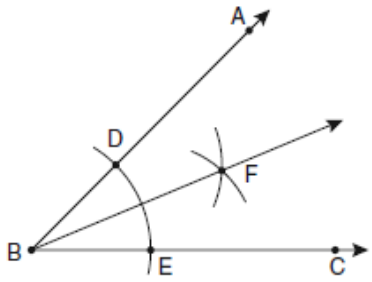
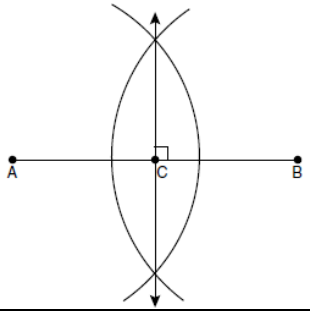
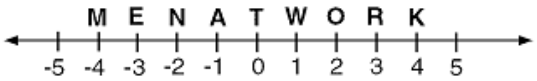
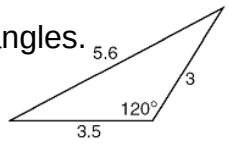
Name _____ **DUE DATE:** _____

Geometry Regents Review #1

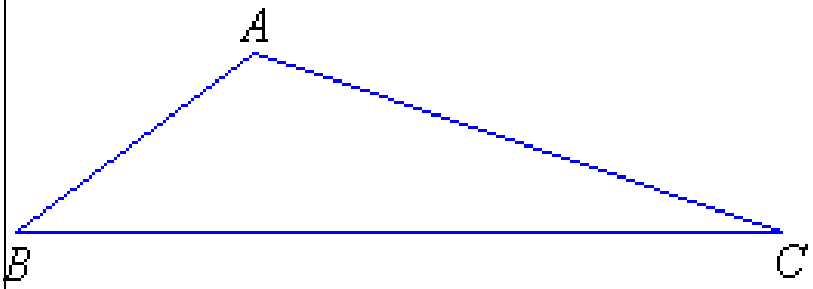
Directions: *Choose the best answer. Answer ALL questions.*

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 pt. quiz grade!!!***

1. The sum of $\sqrt{75}$ and $\sqrt{3}$ is 1) 15 2) 18 3) $6\sqrt{3}$ 4) $\sqrt{78}$	**Show work!**
2. **Which function is modeled by the table?** x | -5 | 0 | 1 | 3 y | -9 | 1 | 3 | 7 [A] $f(x) = -x + 4$ [B] $f(x) = 3x$ [C] $f(x) = 2x + 1$ [D] $f(x) = x - 3$ [E] $f(x) = x + 3$	**Show work and/or explain your choice!**
3. The diagram below shows the construction of the bisector of $\angle ABC$.  Which statement is ***not*** true? 1) $m\angle EBF = \frac{1}{2} m\angle ABC$ 3) $m\angle EBF = m\angle ABC$ 2) $m\angle DBF = \frac{1}{2} m\angle ABC$ 4) $m\angle DBF = m\angle EBF$	**Explain your choice!**
4. One step in a construction uses the endpoints of $\overline{AB}$ to create arcs with the same radii. The arcs intersect above and below the segment. What is the relationship of $\overline{AB}$ and the line connecting the points of intersection of these arcs? 1) congruent 3) collinear 2) parallel 4) perpendicular	**Explain your choice!**

5. The diagram below shows the construction of the perpendicular bisector of $\overline{AB}$. Which statement is ***not*** true? 1) AC= CB 2) CB = ½ AB 3) AC = 2AB 4) AC+CB =AB  	**Explain your choice!**
6. The length and width of a rectangle are given as: $\sqrt{3}$ and $\sqrt{6}$, find its area in simplest radical form. 1) $\sqrt{18}$ 2) 3 3) $2\sqrt{9}$ 4) $3\sqrt{2}$	**Show work!**
7. Use the figure below to name a segment, ray, or point that *best* completes the given statement.  T is the midpoint of_____. 1) $\overline{AR}$ 2) $\overline{ER}$ 3) $\overline{NO}$ 4) both choices 2&3	**Explain your choice!**
8. Classify this triangle by its sides and angles. 1) acute scalene 2) obtuse scalene 3) obtuse isosceles 4) acute isosceles  	**Explain your choice!**
9. Calculate the midpoint of a line segment with endpoints located at (2, 7) and (-3, 9). 1) (2.5, 1) 2) (2.5, 8) 3) (.5, 8) 4) (-.5, 8)	**Show work!**
10. The center of a circle is located at (4, 3) and a point on its circumference is at (-2, 5), find the other endpoint of its diameter. 1) (10, 1) 2) (10, 11) 3) (1, 4) 4) (6, 1)	**Show work!**

11. Which is the slope of the line which passes through the points (-3, 6) and (2, -7)? 1) $\frac{5}{13}$ 2) $-\frac{5}{13}$ 3) $-\frac{13}{5}$ 4) $\frac{13}{5}$	**Show work!**
12. Write the slope-intercept form of the equation of the line which is parallel to $6x-3y=9$ and passes through (0,-4). 1) $y=-2x-4$ 3) $y=2x-4$ 2) $y=-\frac{1}{2}x-4$ 4) $y=\frac{1}{2}x-4$	**Show work!**
13. Write the point-slope form of the line which passes through the points (5, 7) and (-1, 4). 1) $y-4=\frac{1}{2}(x+1)$ 3) $y-4=\frac{1}{2}(x-1)$ 2) $y-5=\frac{1}{2}(x-7)$ 4) $y-7=2(x-5)$	**Show work!**
14. Write the slope-intercept form of the line which passes through the points (5, 7) and (-1, 4). 1) $y=\frac{1}{2}x-4.5$ 3) $y=\frac{1}{2}x+5$ 2) $y=\frac{1}{2}x+4.5$ 4) $y=2x+4.5$	**Show work!**
15. Write the point-slope form of the equation of the line which is perpendicular to $3x-y=9$ and passes through (4,-2). 1) $y+2=-3(x-4)$ 2) $y+2=-\frac{1}{3}(x-4)$ 3) $y-4=-3(x+2)$ 4) $y-2=-\frac{1}{3}(x-4)$	**Show work!**

16. Antonio wants to swim across a river that is 400 meters wide. He begins swimming perpendicular to the shore he started from but ends up 100 meters down river from where he started because of the current. How far did he actually swim from his starting point? Round to nearest meter.	**Show work!**
17. Solve for x. $8-\frac{3}{7}x-5=\frac{12}{7}$	**Show work!**
18. Solve for x. $-8=-(x+4)$	**Show work!**
19. **Construct the altitude from A to** $\overline{BC}$. 	**Show the construction using a compass and straightedge.**
20. **Inscribe a hexagon in a circle.**	**Show the construction using a compass and straightedge.**