TERM 2 REVIEW for Final Name: _____ Per: _____

Show your work and work in pencil. **DUE THE DAY OF TERM FINAL DEC 13TH / DEC 14TH**

THIS IS ALSO DEAD DAY FOR THE TERM. PLEASE TURN IN ALL HOMEWORK BY THIS DAY

1. Write the following equation in slope-intercept form: $3y - (5x + 3) = 2y - x$.

   State the y-intercept: _____ Slope: _____ x-intercept: _____

2. Write the equation of the line given the following points: (6, 5) and (5, 1).

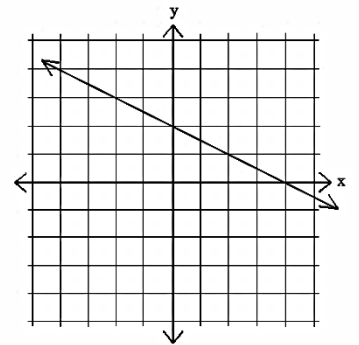3. Write the equation of the line from the following table.

x	y
1	3
5	11
-1	-1

4. Using the graph of the line to the right:
   a. Write the equation and graph the line parallel to the given line and goes through the point $(-2, -3)$.

   b. Write the equation and graph the line perpendicular to the given line and goes through the point $(-2, -3)$.

5. Solve for k in the following equation. $5k + 3(k - 1) = 10(k + 2) - 3$

6. Brad wants to get in shape. He starts by running 5 miles a week. He then adds 2 more miles each additional week he runs. Write an equation to determine how far Brad will run on any given week.
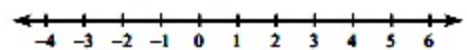   a. Equation:
   b. How far will Brad run on week 16?

7. Solve the following for x: $12 + 3x - 21y = -6x - 9$.

(When you multiply, or divide BOTH sides an inequality by a _____ number, you MUST _____ the sign.)

8. Solve and graph the following inequality.
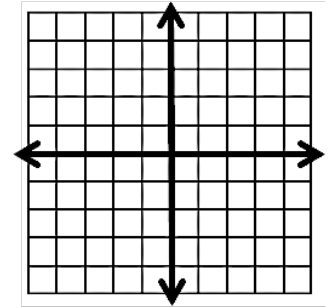
   $3 - 6(4x + 6) > -105$

9. Solve the following for x: $-4y + 2x \geq 4x + 3y - 7$

10. Translate the following: The sum of a number and six is the same as eight times the number, decreased by three. Write an equation and solve for the number.

11. Solve the following system of equations by graphing. Circle the solution.

$y = -\frac{1}{2}x - 1$ AND $y + 4 = \frac{1}{4}x$

12. How many solutions does the following system have and explain how you know.
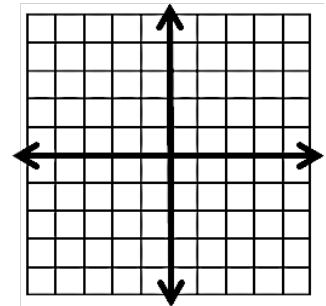
$$\begin{cases} -2x = 12 + 6y \\ 4x + 12y + 24 = 0 \end{cases}$$

    a. Number of solutions: b. How do you know?

13. Graph the system of inequalities. Circle or highlight the solution set.

$y \geq \frac{2}{3}x + 3$ AND $y < -\frac{4}{3}x - 3$

Solve the following system of equations using any method (substitution or elimination).

14. $\begin{cases} x = 1 - 3y \\ x = -y + 5 \end{cases}$

15. $\begin{cases} x - y = 11 \\ 2x + y = 19 \end{cases}$

Solution: _____

a. Which method did you use and why?

b. CHECK YOUR ANSWER

Solution: _____

a. Which method did you use and why?

b. CHECK YOUR ANSWER

16. While Mrs. Packer was on Space Mountain in Disneyland she sees blue and green aliens. She was able to count a total of 25 aliens. The blue aliens have two eyes and the green ones had four eyes. There was a total of 70 eyes altogether.
   a. Define your variables.
   b. Write two equations and solve.

   c. Explain your solution.

17. VHMS is going to sell tickets to their band performance. On the first day of the ticket sales the school sold 3 senior citizen tickets and 1 child ticket for a total of $38. The school took in $52 on the second day by selling 3 senior citizen tickets and 2 child tickets.
   a. Define your variables.
   b. Write two equations and solve.

   c. Explain your solution.

18. Simplify the following. EXACT answers (No decimals).
   a. $\sqrt{250}$ b. $\sqrt{88}$ c. $\sqrt{200}$

19. Solve for x: a. $|2x + 3| = 13$ b. $2|4 - x| = 10$
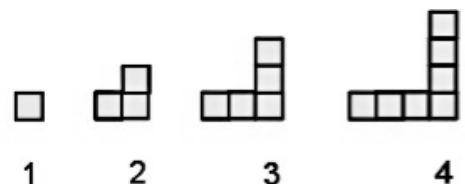

20. Solve for x: a. $\sqrt{2x + 3} = 13$ b. $2\sqrt{4 - x} = 10$

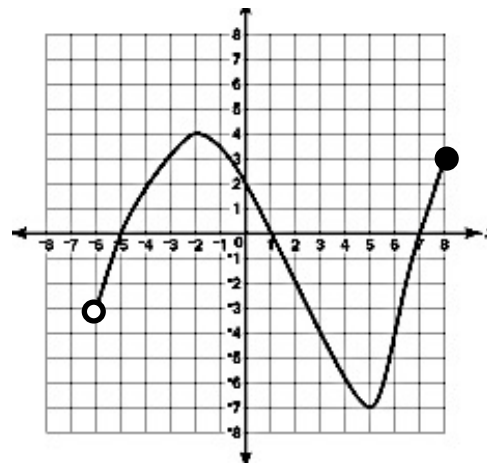21. Solve for x (no decimals): a. $2x^2 + 3 = 13$ b. $2(4 + x^2) = 10$

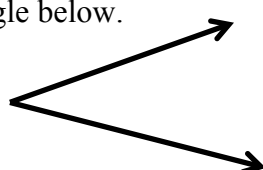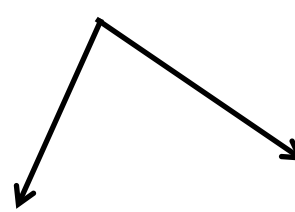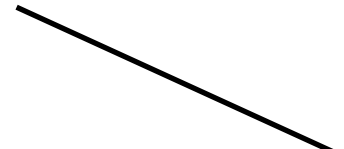22. Write an equation to represent the picture's growth.

1   2   3   4

23. Give the following information based on the graph to the right.

   a. What is the Domain?_____ Range?_____

   b. Is the graph a function?_____ Why? _____

   c. Is the graph continuous or discrete? _____

   d. What's the Max Point? _____ Min Point?_____

   e. List the interval that the graph is decreasing_____

   f. If there were arrow at each end, what would be the
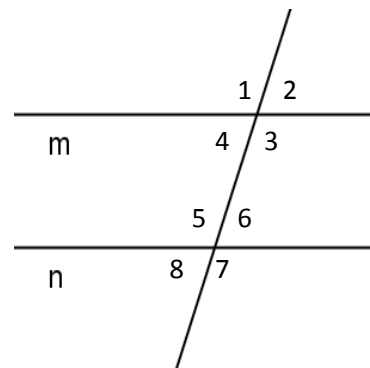
     Domain? _____ Range? _____

24. **Complete the following constructions (compass and straightedge)**

a. Copy a mirror image of the angle below.	b. Copy the following angle	c. Parallel Line to the given line by constructing congruent angles.

Using the figure to the right (line m is parallel to line n).

25. If $m\angle 6 = (2x - 2)°$ and $m\angle 3 = (3x - 18)°$

   a. 6 and 3 are called _____.

   b. Find x   c. Find m 6   d. Find m 3

26. If $m\angle 1 = (4y + 20)°$ and $m\angle 7 = (10y - 40)°$

   a. 1 and 7 are called _____

   b. Find y   c. Find m 1