Name_____

Summer CP Algebra I

This packet should help prepare you for CP Algebra I at Trumbull High School. Please complete these problems before the first day of school.

A TI 84 graphing calculator is required for all math classes at Trumbull High. You may use the calculator for all problems of this packet.

1. Evaluate.

a) $(2+5)^2-(3)(9)$

b) $\left[2-5\left(14-9\right)\right]+2\div2$

c) $\frac{2(4-1)^2}{5^2-9}$

d) $\frac{6^2-3^3}{4-5(8-4)}$

2. Evaluate $3x-2y$ given that $x=3, y=-4$.

3. Evaluate x^2-7 given that $x=-5$.

4. Solve each equation. Show all work.

a. $-14x + 5 = 47$

b. $\frac{x}{3} - 5 = -2$

c. $50 + 9x = 11x + 24$

d. $8m - 35 = 5(m - 11)$

e. $12x + 16 = 10 - 3(x - 2)$

f. $\frac{x-3}{2} = 7$

g. $\frac{x+8}{3} = \frac{9}{2}$

h. $-x + 7 - 4x = -5(x + 11)$

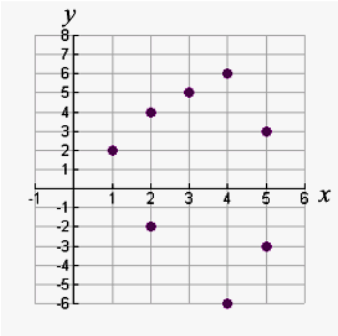
5. Solve the following inequalities. Show work and graph the solutions on the given number lines.

a. $-5x - 2 < 13$

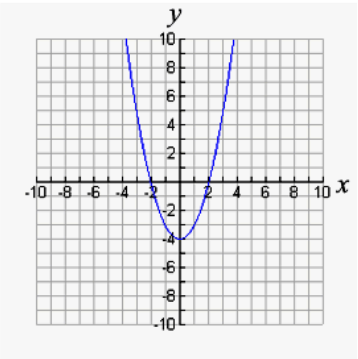
b. $4x + 2 < -6$

6. Determine if each graph is a function. Explain.

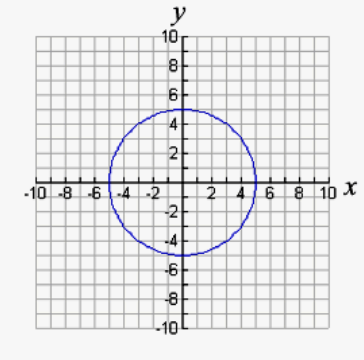
a.



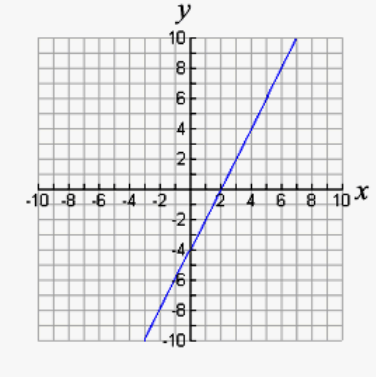
b.



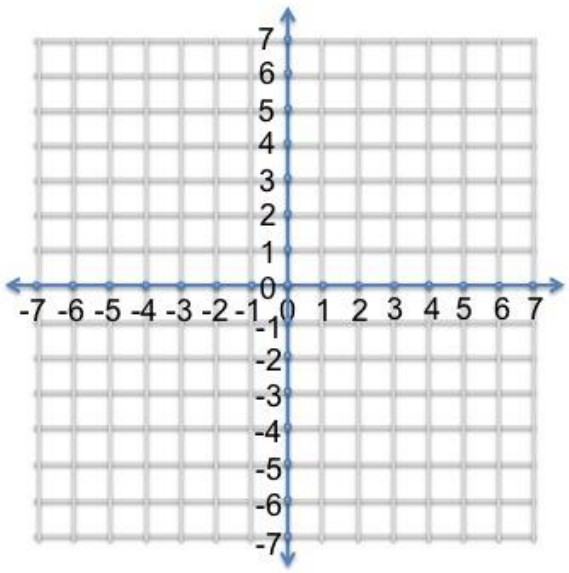
c.



d.



7. Graph $y = \frac{1}{2}x - 4$



8. Find the slope of the line through $(7, 12)$ and $(4, -9)$.

9. Given the line $y = 3x + 5$,

a. Identify the slope.

b. Identify the *y*-intercept

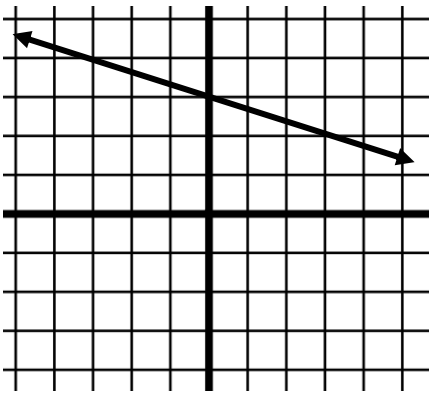
10. Write an equation of a line that has a slope of 2 and a *y*-intercept of 7.

11. Write an equation of a line that has a slope of 3 and contains (4, 6).

12. Write an equation of a line that contains (1, 4) and (2, 7).

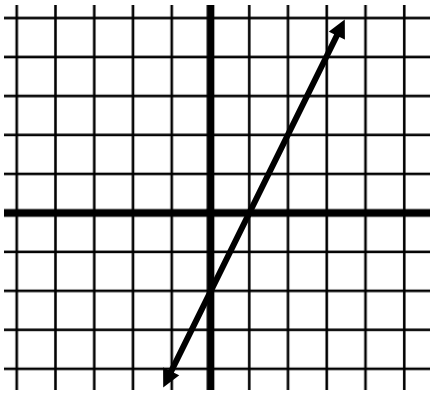
13. Write an equation of a line in slope intercept form for the lines graphed below.

a.



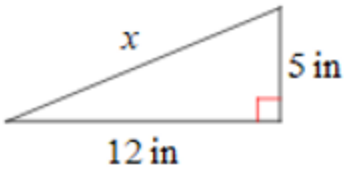
Equation:_____

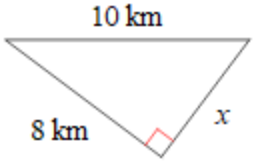
b.



Equation:_____

14. Find the missing side of the triangle using the Pythagorean Theorem.

a. 

b. 

15. Show your work to answer each question about percents.

a. What is 40% of 68?

b. Twelve is what percent of twenty-two?

c. 30 is 80% of what number?