Algebra 2 Preparation Name_____ ID: 1

Bonus Assignment #1 **(Topics #1- #4)**

Date_____ Period____

Evaluate each expression. Problems 1-13 are from Review Topic #1 - Order of Operations, Number sets, etc. Please go through the review problems if you are struggling. NON-CALCULATOR

1) $\dfrac{(11-5)(2)-6}{6}$

2) $\dfrac{13+8-5}{-4}-1$

3) $1\dfrac{1}{4}-\dfrac{6}{5}-\left(-2\dfrac{4}{5}+2\dfrac{1}{2}\right)$

Evaluate each using the values given.

4) $(y)\left(\dfrac{x}{6}+(-1)^2\right)$; use $x=6$, and $y=-3$

Name the set or sets to which each number belongs.

5) $\sqrt{71}$

Solve each equation.

6) $a+20=36$

7) $a-5a=16$

8) $-8n-6=2n-4n-6$

9) $-81=3(4v+1)$

10) $\frac{11}{3} = \frac{2}{3}k - \frac{4}{3} + \frac{11}{6}k$

Solve each proportion.

11) $\frac{6}{9} = \frac{x-7}{3}$

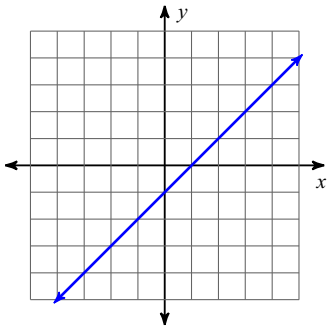
12) $\frac{9}{n} = \frac{10}{n-9}$

13) $\frac{4}{2} = \frac{p+5}{3p+1}$

Problems 14-32 are from Review Topic #2 - Slopes, Equations of Lines and Graphing. Please go through the review problems if you are struggling.

Find the slope of each line.

14)



Find the slope of the line through each pair of points.

15) $(-3, 7), (11, -18)$

Find the slope of each line.

16) $y = 5x - 4$

17) $4x + 5y = -15$

Find the slope of a line parallel to each given line.

18) $y = -4x$

19) $x - 5y = 10$

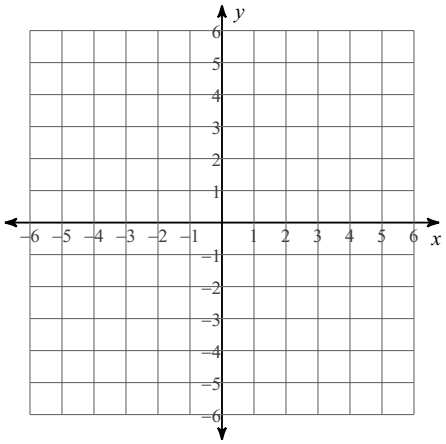
Find the slope of a line perpendicular to each given line.

20) $x = 2$

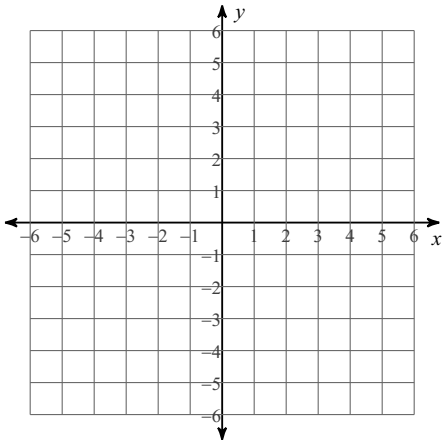
21) $x - y = 4$

Sketch the graph of each line.

22) $x = 3$

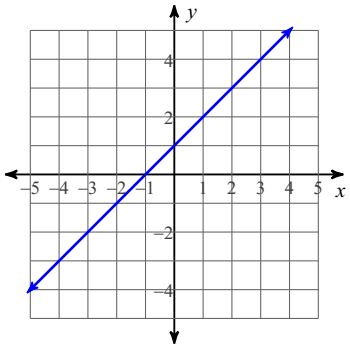


23) $y = 5$



Write the slope-intercept form of the equation of each line.

24)



25) Slope = 1, y-intercept = 0

26) $2x + y = 0$

27) through: $(-3, -2)$, slope = 1

28) through: $(2, 4)$ and $(5, 5)$

29) through: $(3, -1)$, parallel to $y = -\frac{2}{5}x - 4$

30) through: $(5, -3)$, perp. to $y = -\frac{5}{2}x - 4$

Write the point-slope form of the equation of the line.

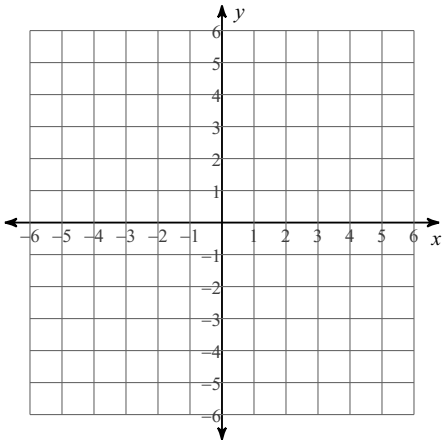
31) through: $(5, -1)$, slope $= -\frac{2}{5}$

32) through: $(1, 4)$ and $(-1, 1)$

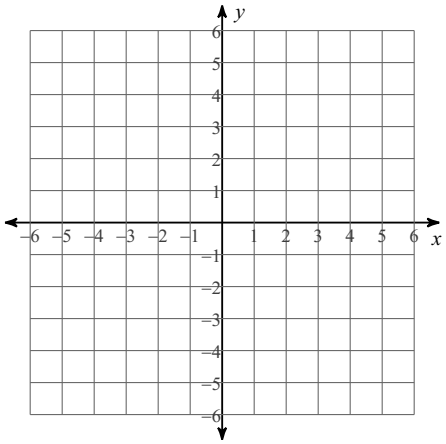
Problems 33-41 are from Review Topic #3 - Inequalities & Absolute Values. Please go through the review problems if you are struggling.

Sketch the graph of each linear inequality.

33) $y \leq -3x - 2$

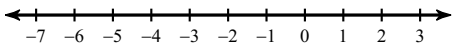


34) $4x + y \leq -5$

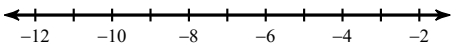


Solve each inequality and graph its solution.

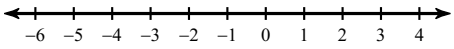
35) $12 \leq -5n - 7n$



36) $4(7 - 4k) \geq 140$



37) $8(2n + 7) + 6 > -6 - n$



Solve each equation.

38) $|p| = 2$

39) $|n| + 6 = 9$

40) $7 + 3|4p| = 43$

41) $7|-4r - 1| + 1 = 22$

Problems 42- 49 are from Review Topic #4 - Systems of Equations. Please go through the review problems if you are struggling.

Solve each system by graphing.

42) $y = -\frac{1}{2}x - 2$
$y = -\frac{7}{4}x + 3$

Solve each system by substitution.

43) $y = 3x + 19$
$-7x - 3y = 23$

44) $8x + 3y = -6$
$2x + y = -2$

Solve each system by elimination.

45) $-5x + 10y = -5$
$-7x + 10y = -11$

46) $-3x + y = -7$
$3x - y = 3$

47) $-2x + 7y = 23$
$x + 14y = 6$

48) $-80x - 80y = 0$
$90x + 90y = 0$

49) Mofor's school is selling tickets to the annual talent show. On the first day of ticket sales the school sold 12 adult tickets and 12 child tickets for a total of $300. The school took in $230 on the second day by selling 7 adult tickets and 12 child tickets. What is the price each of one adult ticket and one child ticket?

Answers to Bonus Assignment #1 (ID: 1)

1) 1

3) $\frac{7}{20}$

5) I, R

7) $\{-4\}$

9) $\{-7\}$

11) $\{9\}$

13) $\{0.6\}$

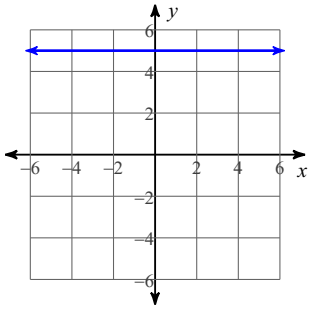
15) $-\frac{25}{14}$

17) $-\frac{4}{5}$

19) $\frac{1}{5}$

21) -1

23)



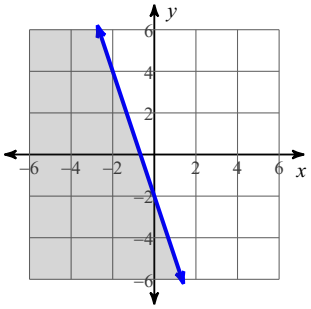
25) $y = x$

27) $y = x + 1$

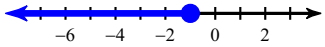
29) $y = -\frac{2}{5}x + \frac{1}{5}$

31) $y + 1 = -\frac{2}{5}(x - 5)$

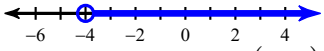
33)



35) $n \leq -1$:



37) $n > -4$:



39) $\{3, -3\}$

41) $\left\{-1, \frac{1}{2}\right\}$

43) $(-5, 4)$

45) $(3, 1)$

47) $(-8, 1)$

49) adult ticket: \$14, child ticket: \$11