Algebra I Homework #9

1) How much 24% acid should you mix with 12 gallons of a 64% acid solution in order to make a 48% acid solution?

2) Solve: $-2^3 - (5x-1) - 8x - (-1-2)^2 = -7^0 - 4(3x-5) - 3^2 - x$

3) Matt leaves a town at 8 a.m., going 68 mph, traveling north. Eric leaves the same town at 9 a.m. going 85 mph, traveling in the same direction. What time of day will it be when Eric catches Matt?

4) Simplify: $\dfrac{18 \div 9(-1-1) - 7^0 - (-1-2)^3 - 2^3}{-(-1-1)^2 - 12 \div 6 \div 2 - 1^8 - (-3-5)^0}$

5) The difference of two numbers is eighteen. If five more than twice the smaller number is three less than the larger number, find the two numbers.

6) Graph and label each of the following points all on one graph and state the quadrant for each point:

   A. (4, –1)   B. (–3, 2)   C. (2, –2)   D. (0, –3)   E. (–1, 5)

7) Graph the equation $3x - y = 4$ by plotting points.

8) Find $A \cup B$ if $A = \{-2, 3, 0, -7, 5, 8\}$ and $B = \{6, 5, -4, 7, 8, -1\}$

9) Graph and label each of the following points all on one graph and state the quadrant for each point:

   A. (– 3, –4)   B. (4, 0)   C. (2, –5)   D. (5, –4)   E. (0, 6)

10) Graph the equation $x + 2y = 6$ by plotting points.

11) Find $A \cap B$ if $A = \{-6, -1, 4, -9, 7, 0, 13\}$ and $B = \{9, -6, -2, 7, -4, -1\}$

12) Graph and label each of the following points all on one graph and state the quadrant for each point:

   A. (7, –3)   B. (–4, 5)   C. (0, 4)   D. (–2, –5)   E. (3, 6)

13) Graph the equation $3x - 5y = 10$

14) Graph the equation $6x + 7 = 25$

15) Graph the equation $4x + 3y = 9$

16) Graph the equation $y = \dfrac{-5}{6}x + 4$

17) Graph the equation $4 - 6y = -8$

18) Graph the equation $-2x + 7y = -14$

19) Graph the equation $-y = -2x$

20) Graph the equation $y = 3x - 2$