Algebra II Homework #4

1) Solve: $\dfrac{4x-3}{27} + \dfrac{7x-1}{36} = \dfrac{x}{24} - \dfrac{3x+4}{18}$

2) How much pure acid should be added to 56 gallons of a 28% acid solution in order to make a 68% acid solution?

3) Solve: $\dfrac{5}{24ym} - \dfrac{x}{18ac} = \dfrac{1}{16y}$ for the letter y

4) Simplify: $\dfrac{-y^2 - x}{-c^3 - 2a^0}$ if a = -7, c = -3, x = -5, and y = -2

5) If five less than double the sum of the first and third of three consecutive odd integers is twenty-eight more than the middle integer, find the three integers.

6) Solve: $3|x-4| - 6 = 9$

7) Solve: $-|4x+7| - 9 > 6$

8) Sabrina leaves a town at 9 a.m., going 47 mph, traveling east. Eric leaves the same town at 10 a.m. going 54 mph, traveling in the same direction. What time of day will it be when Eric is 51 miles ahead of Sabrina?

9) Solve: $-9 \div 3(-2-1) - 3(2x-1) - x - 3^2 > -5(2x-3) - (-1-1)^0$

10) Bianca leaves a town at 8 a.m., going 41 mph, traveling north. Jen leaves the same town at 10 a.m. going 67 mph, traveling south. What time of day will it be when Bianca and Jen are 730 miles apart?

11) Solve: $\dfrac{2x+3}{6} - \dfrac{5x-2}{8} \le 4 - \dfrac{2}{9}x$

12) Suzanne leaves a town at 8 a.m., going 80 mph, traveling north. Travis leaves the same town at 9 a.m. going 88 mph, traveling in the same direction. What time of day will it be when Travis catches Suzanne?

13) Solve: $-5|2x-1| + 17 = 2$

14) Solve: $4|3x+11| + 9 < 1$

15) Julie leaves a town at 1 p.m. traveling north at 67 mph. Ben leaves the same town at 3 p.m. traveling in the same direction at a speed of 83 mph. What time of day will it be when Ben is 26 miles ahead of Julie?

16) Solve: $-|4x+6|-15=3$

17) Solve: $-2|x+7|-5 \le 3$

18) Solve: $\dfrac{2x-5}{3}-4 > \dfrac{1}{6}-\dfrac{x-5}{12}$

19) Solve: $6|4x+5|+9=3$

20) Solve: $3|2x-9|-10 > 5$