Answers!

DIRECTIONS: For #1-3, solve and check. Show all work. If an equation has no solution, be sure to state that fact. Write answers in provided blanks.

1. $\frac{x+5}{2} - \frac{7}{4} \geq \frac{2x-3}{8}$ $\quad x \geq -\frac{9}{2}$

2. $\frac{8}{w+2} - 6 = \frac{4}{w+2}$ $\quad w = -\frac{4}{3}$

3. $8 + \frac{33}{y^2-4} = \frac{2}{y-2}$ $\quad y = -\frac{1}{2}, \frac{3}{4}$

DIRECTIONS: For #4-8, solve the following problems. Show all work. Write answers in provided blanks.

4. Hoops can eat all the doughnuts in 16 minutes. Yoyo can eat the same doughnuts in 24 minutes. How long will it take Hoops & Yoyo to eat all the doughnuts together?

9.6 minutes (or $9\frac{3}{5}$ minutes; or 9 minutes, 36 seconds)

5. How many liters each of a 25% sulfuric acid solution and a 5% sulfuric acid solution must a chemist mix to make 400 liters of 10% sulfuric acid solution?

25% solution: 100 liters; 5% solution: 300 liters

6. Clarice can decorate the workshop three times as fast as Rudolph. If they work together, they can decorate the workshop in nine hours. How long would it take each to decorate the workshop alone?

Clarice: 12 hours; Rudolph: 36 hours

7. An intake pipe can fill a pool in sixteen hours when the drainpipe is closed. However, when the drainpipe is open, twenty-four hours are required to fill the pool. How long would it take the drainpipe to empty a full tank?

48 hours

8. Dora the Explorer invested $875 in two accounts, one with 7% annual interest and the other with 5% annual interest. The total annual interest earned was $51.75. How much did Dora invest in each account?

7% interest: $400.00; 5% interest: $475.00