

ALEKS® Rational Expressions Quiz 2 #1

Beginning and Intermediate Algebra Combined / MATH 103 - Fall 2014 – 504 (Prof. Miller)

Student Name/ID:

Instructor Note:

Directions: Every problem is worth two points. One point is for trying the problem and showing your work and one point is for getting the correct answer. There are an additional five points for demonstrating the study strategy that is posted on the board and talked about at the beginning of class.

1. Working together, it takes two different sized hoses 20 minutes to fill a small swimming pool. If it takes 25 minutes for the larger hose to fill the swimming pool by itself, how long will it take the smaller hose to fill the pool on its own?

Do not do any rounding.

2. Solve for w

$$-5 = \frac{1}{w-5}$$

Simplify your answer as much as possible.

3. Solve for w

$$\frac{5}{w-1} = -9 + \frac{2}{w+1}$$

4. Solve for x

$$\frac{x+7}{x+4} = \frac{x-3}{x+1} + 1$$

5. Solve for x

$$\frac{30}{x-2} = \frac{20}{x}$$

6. How long will it take 5 workers to complete a task, given that 6 workers can complete the same task in 10 days?

7. Solve for w

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

8. Suppose that the amount of time it takes to build a highway varies directly with the length of the highway and inversely with the number of workers. Suppose also that it takes 300 workers 22 weeks to build 24 miles of highway. How many miles of highway could 225 workers build in 33 weeks?

miles

9. A certain drug is made from only two ingredients: compound A and compound B. There are 5 milliliters of compound A used for every 7 milliliters of compound B. If a chemist uses 378 milliliters of compound B, how many milliliters of the drug will be made?

10. Solve for x

$$2 = \frac{4}{3} - \frac{5}{x}$$

Simplify your answer as much as possible.

11. Martina runs 3 miles in 28 minutes. At the same rate, how many miles would she run in 42 minutes?

12. How many machines will be needed to complete a task in 3 days, given that it takes 4 days for 6 machines to complete the same task?

13. Solve for x

$$\frac{12}{x} = \frac{22}{x-5}$$

14. Solve for v

$$-\frac{6}{v} = -4$$

Simplify your answer as much as possible.

15. Simplify.

$$\frac{\frac{5x+25}{x}}{\frac{10x+20}{3x}}$$

Rational Expressions Quiz 2 #1 Answers for class Beginning and Intermediate Algebra Combined / MATH 103 - Fall 2014 – 504

1. 100 minutes

2. $w = \frac{24}{5}$

3. $w = \frac{1}{3}, -\frac{2}{3}$

4. $x = 5, -3$

5. $x = -4$

6. 12 days

7. $w = -\frac{29}{4}$

8. The answer is 27 miles.

9. 648 milliliters of the drug

10. $x = -\frac{15}{2}$

11. 4.5 miles

12. 8 machines

13. $x = -6$

14. $v = \frac{3}{2}$

15. $\frac{3(x+5)}{2(x+2)}$