

Assignment 1

Math 1030

Due Friday, August 31st

1. *Fractions, Decimals, and Percentages*

Express “three-fourths” as a fraction, a decimal, and a percentage.

2. *Working with Fractions*

Evaluate the following:

(a) $\frac{2}{5}(\frac{1}{3} + \frac{3}{7})$

(b) $\frac{3}{\frac{2}{9}} + \frac{1}{2}$

3. *Exponents*

Simplify the following:

(a) $(x^0)^7(y^2)^3$

(b) $(xy^2)^3(x^2y^3)$

4. *Simultaneous Equations*

The sum of two numbers is 44, while the product of the same two numbers is 483. What are the two numbers?

5. *Quadratic Equation*

Solve for x in the following equations:

Note - You may get more than one possible value for x .

(a) $x^2 + x - 4$

(b) $x(x + 2) = 7$

6. *Ratios*

You're asked to make one gallon of mouthwash from a concentrated mouthwash solution. The instructions says to dilute the solution with water in a 3 : 1 ratio. How many quarts of the concentrated solution will you need to make one gallon of mouthwash?

7. *Compounding*

Suppose you take out a student loan of \$2500 at the start of your freshman year. During the four years you're in school you don't have to make any payments, but the loan generates interest at a rate of 3% each year. When you start making payments at the end of four years, how much will you need to pay off?

8. *Graphing Linear Equations*

Sketch a graph of the line $3x + 4y = 7$, and give the slope and y -intercept of this line.