

Show any work that you need to do to arrive at an answer.

I. Conversions (3 pts. each)

A. Convert the following decimals to percents.

1.) 6.2

2.) .893

B. Convert the following percents to decimals.

1.) 8%

2.) $3\frac{1}{5}\%$

C. Convert the following fractions to percents.

1.) $\frac{3}{8}$

2.) $\frac{17}{16}$

D. Convert the following percents to fractions.

1.) 18%

2.) $\frac{5}{6}\%$

II. Write each of the following as an equation with an unknown variable and then solve. (5 pts. each: 3 pts. for the equation and 2 pts. for solving)

1.) What is 38% of 175?

2.) 19 is 45% of what number?

3.) 75 is what percent of 20?

III. Applications (6 pts. each)

1.) A college bookstore buys a textbook for \$24.80 and uses a markup rate of 20%. Find the selling price of the book.

2.) The cost to the manager of a sporting goods store for a bicycle is \$185. The selling price of the bicycle is \$266.40. Find the markup rate.

IV. Simplify the following problems. (6 pts. each)

1.) $(3x^2 + 4xy - 5y^2 + 8) - (7x^2 - 2xy + 5y - 1)$

2.) $(3a^2b)(-4a)$

3.) $(2x + 4)(3x - 7)$

4.) $(-2ab^2)^2(3a)$

5.) $(x + 3)(x + y + 2)$

6.) $(125a)^0$

7.) $\frac{ab}{b^{-2}a^2}$

V. (7 pts.)

Suppose the width of a rectangle is 3 less than half the length. Find the length and width if the perimeter is 84 feet.