

Name _____

Date _____

Homework #21 – Ratios, Rates and Unit Rate

Write the following ratios in simplest form.

- 1) There are 12 males and 20 females in a subway car. 2) A team won 8 games and lost 2 games.

a) Express the ratio of <u>males</u> to females. $\frac{12}{20} = \frac{3}{5}$
b) Express the ratio of females to males. $\frac{20}{12} = \frac{5}{3}$
c) Express the ratio of females to total passengers. $\frac{20}{32} = \frac{5}{8}$

a) Express the ratio of wins to losses. $\frac{8}{2} = \frac{4}{1}$
b) Express the ratio of losses to total games played. $\frac{2}{10} = \frac{1}{5}$
c) Express the ratio of total games played to wins. $\frac{10}{8} = \frac{5}{4}$

Classify each of the following as unit rates or not unit rates.

2) 3 apples to 2 oranges Not unit rate	3) \$1.25 per minute unit rate
4) 23 miles per gallon unit rate	5) 6 pages in 2 minutes Not unit rate

Read each question carefully. Express each rate in the word problem as a fraction in words or simplest form.

- 3) In a term paper, 16 pages of handwritten material produced 7 pages typed. What is the rate in words?

~~Pages~~ handwritten
 typed

- b) What is the rate in simplest form?

$$\frac{16}{7}$$

- 4) To make a certain grade of concrete, 2 bags of cement are mixed with 300 pounds of sand. What is the rate in words?

$$\frac{\text{bags of Cement}}{\text{pounds of Sand}}$$

- b) What is the rate in simplest form?

$$\frac{2}{300} = \frac{1}{150}$$

- 5) In the first 8 games of the season, all-star basketball player scored 168 points. What is the rate in words?

$$\frac{\text{points}}{\text{games}}$$

- b) What is the rate in simplest form?

$$\frac{168}{8} = \frac{21}{1}$$

- c) How many points did the player score per game?

21 points per game

- 6) A television commercial claims that 3 out of every 4 dentists prefer GRIN toothpaste. What is the rate in words?

$$\frac{\text{prefer}}{\text{total}}$$

- b) What is the rate in simplest form?

$$\frac{3}{4}$$