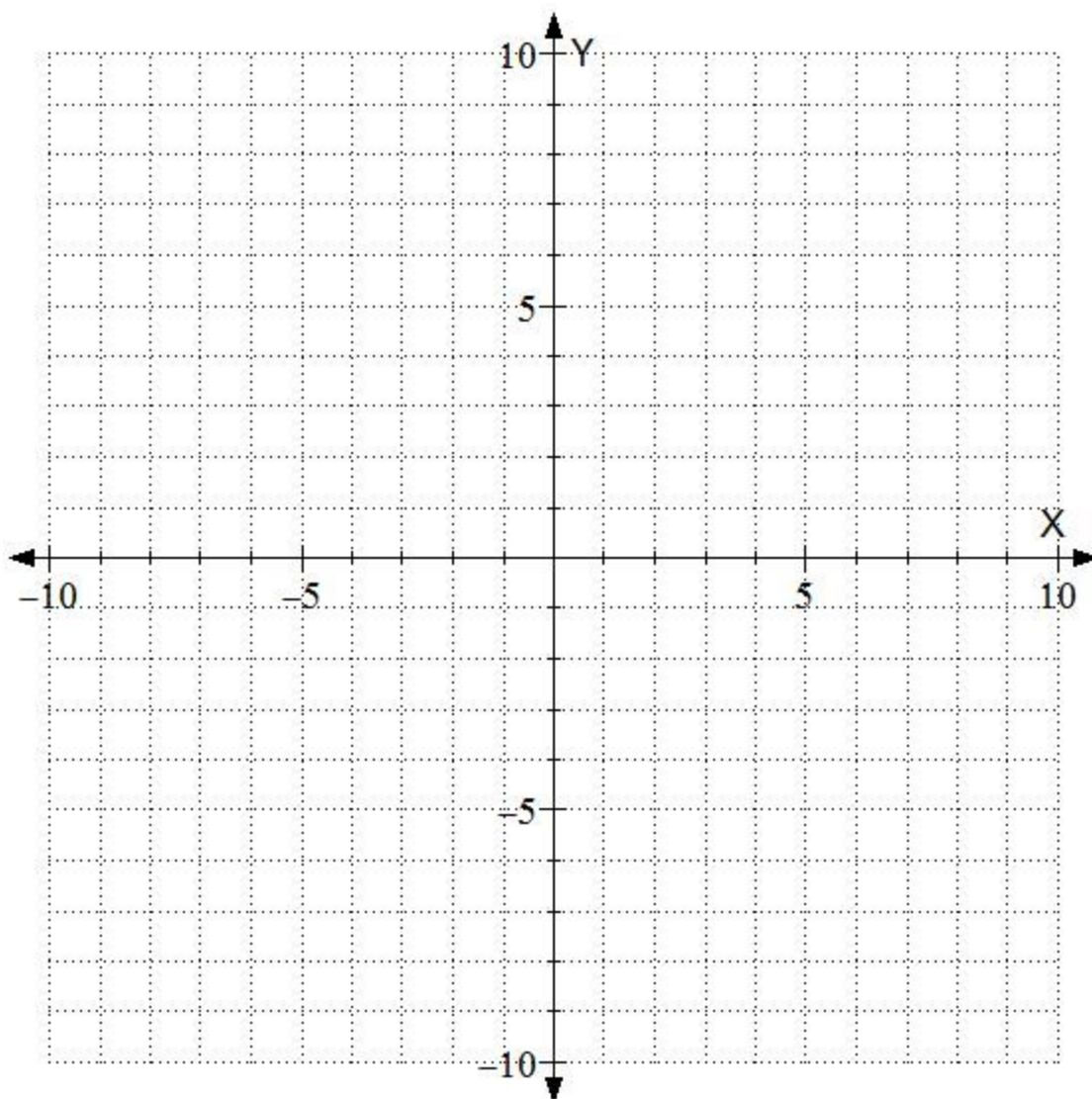


Math Fundamentals Unit 3 Pre-Test

1.) (2.5 pts each, 15 pts total) Plot each of the following points.

- a)  $(-3, 2)$
- b)  $(5, 7)$
- c)  $(0, 4)$
- d)  $(-8, -2)$
- e)  $(-9, 0)$
- f)  $(1, -6)$



2.) (2.5 pts each, 5 pts total) Find the ratio and unit rate of each.

a) It costs \$112 dollars for a group of 8 people to watch Avengers: Endgame.

Ratio  $\frac{\$112 : 8}{\cancel{8} \quad \cancel{8}} \quad \$14 : 1$

This is a rate of  $\underline{\$14}$  dollars per person.

b) Find the ratio and unit rate:

360 cats from 9 enchanted cottages

Ratio: \_\_\_\_\_ cats per enchanted cottage

3.) (2.5 pts each, 5 pts total) Answer each of the following. Include unit rate along with the answer.

a) Nate likes 32 teaspoons of sugar for every 4 cups of coffee. If Nate drinks 20 cups of coffee per week, how many teaspoons of sugar does he use?

$\frac{32 \text{ tsp}}{4} : \frac{4 \text{ cups}}{4}$   
 $8 \text{ tsp} : 1 \text{ cup}$

$8 \text{ tsp} : 1 \text{ cup}$   
 $(160 \text{ tsp}) : 20 \text{ cups}$   
 $\swarrow$   
 $8*$

b) Jeremy took a total of 20 tests in the semester he was enrolled in 5 college classes. If he needs to take 32 classes to graduate, about how many tests can he expect to take?

4.) (5 pts each, 10 pts total) Solve each using ratios. Include unit rate along with your answer.

a) At the baseball stadium, it costs \$39.69 for 7 hot dogs. If you wanted to buy a very conservative snack of 16 hot dogs, how much would it cost?

b) A recipe called for the ratio of sugar to flour to be 8 : 5. If you used 70 ounces of flour, how many ounces of sugar would you need to use?

$$y = kx \quad k = \frac{y}{x}$$

5.) (5 pts each, 10 pts total) Determine the proportionality constant utilizing the following table or graph.

a)  $k = 34$

Time in minute (x)	10	7	5	9	3
Gallons of Water Used (y)	340	238	170	306	102

$$\begin{array}{r} 4 \\ 875 \\ \times 28 \\ \hline 0 \end{array}$$

$$\frac{340}{10} = 34$$

$$y = 34x$$

$$y = kx$$

b)  $k =$

Equation:

$$k = \frac{y}{x}$$

$$y = 8x$$

$$\frac{16}{2} = 8$$

$$k = 8$$



6.) (5 pts each, 10 pts total) Use your knowledge of proportions to answer each of the following:

a) A phone store earned \$112.32 after they sold 18 phone cases. Write an equation that can be used to express the relationship between the total money earned ( $y$ ) and the number of cases ( $x$ ) sold.

$y = kx$   
 $k = \frac{y}{x}$

$k = \frac{\$112.32}{18}$   
 $k = \$6.24$

$x$  independent  
 $y$  dependent

$y = 6.24x$

b)  $\frac{x}{25} = \frac{64}{100}$

$\frac{(25)(64)}{100}$

16

7.) (2.5 pts each, 10 pts total) Use your knowledge of conversions to answer each of the following:

a) 18 centimeters = \_\_\_\_\_ m

b) 306 millimeters = \_\_\_\_\_ cm

c) 9 kilograms = \_\_\_\_\_ g

d) 834 milliliters = \_\_\_\_\_ L

8.) (2.5 pts each, 5 pts total) Convert each percent to a decimal.

a) 68%

$$\frac{68}{100}$$

$\% \rightarrow \text{decimal}$   
68  
left 2  
0.68

b) 125%

9.) (2.5 pts each, 5 pts total) Convert each number to a percent.

a) 0.89

$$\neq 100\%$$

right 2

$$0.89 = 89\%$$

b) 4.36

10.) (5 pts each, 10 pts total) Use your knowledge of percents to answer each of the following:

a) What is 75% of 64?

$$\downarrow \downarrow \downarrow \downarrow \downarrow$$
$$x = 0.75 * 64$$

$$(48)$$

$$288(1.20) = 345.6 \text{ lbs of fudge}$$

- b) Nate ate 288 pounds of fudge last month. If he expects to eat 20% more fudge this month than last, how much fudge is he expected to eat this month?

percent increase: original number  $(1 + \text{percent increase decimal})$   $288(1 + 0.20)$

percent decrease: original number  $(1 - \text{percent decrease})$  20% less fudge  $288(1 - 0.20)$

- 11.) (2.5 pts each, 5 pts total) Divide each.

- a) Round to the hundredths place.

$$42 \overline{)7280}$$

- b) Round to the hundredths place.

$427 \div 56 = 7$

$7 \times 56 = 392$

$358 \div 56 = 6$

$6 \times 56 = 336$

$76.39$

$$0.56 \overline{)42.78000}$$

$$\begin{array}{r} 76.39 \overline{)2} \\ 56 \overline{)4278000} \\ - 392 \phantom{000} \\ \hline 358 \phantom{000} \\ - 336 \phantom{00} \\ \hline 220 \phantom{000} \\ - 168 \phantom{00} \\ \hline 520 \phantom{000} \\ - 504 \phantom{00} \\ \hline 160 \phantom{000} \end{array}$$

- 12.) (2.5 pts each, 10 pts total) Solve each problem.

- a)  $78.006 - 28.739$

b)  $43.917 + 8.097$

c)  $36.46 \times 19.08$

d) Round to the nearest hundredth.

$14.082 \div 3.2$

$3.2 \overline{) 14.082}$

$32 \overline{) 140.82}$

*HW*  
*\* HW/6 29 due May 18<sup>th</sup>*  
*\* HW/a 30 due May 23<sup>rd</sup>*  
*optimal HW 31 Unit 3 Review*  
*Unit 3 Test due May 23<sup>rd</sup>*  
*Next class No zoom!*