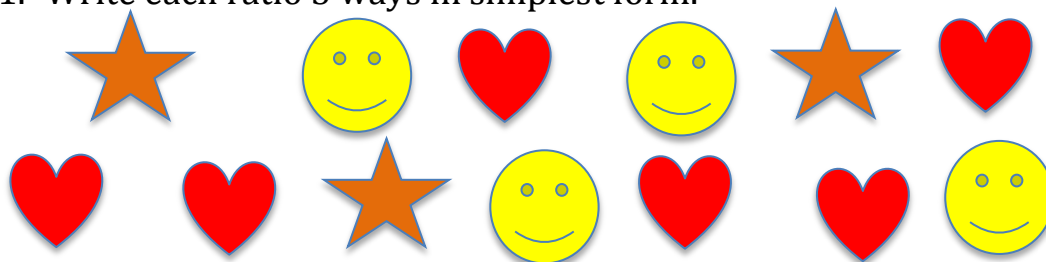


Name _____

Date _____

Review Packet Ratios/Rates/Proportions

1. Write each ratio 3 ways in simplest form.

a) What is the ratio of stars to smiley faces? 3 to 4 3:4 $\frac{3}{4}$ b) What is the ratio of hearts to stars? 2 to 1 2:1 $\frac{2}{1}$ c) What is the ratio of smiley faces to hearts? 2 to 3 2:3 $\frac{2}{3}$ d) What is the ratio of stars to total? 3 to 13 3:13 $\frac{3}{13}$

2. State whether or not each pair of ratios forms a proportion.

a) $\frac{8}{5} = \frac{32}{12}$ no

b) $\frac{1 \text{ cat}}{2 \text{ dogs}} = \frac{4 \text{ dogs}}{8 \text{ cats}}$ no

c) $\frac{3}{16} = \frac{5}{30}$ no

d) $\frac{4 \text{ cakes}}{12 \text{ pies}} = \frac{6 \text{ cakes}}{18 \text{ pies}}$ yes

e) $\frac{3}{23} = \frac{6}{50}$ no

f) $\frac{36 \text{ lbs}}{28 \text{ ft}} = \frac{18 \text{ lbs}}{14 \text{ ft}}$ yes

3. Solve each Proportion.

a) $\frac{x}{8} = \frac{21}{14}$

$168 = 14x$
 $12 = x$

b) $\frac{45}{m} = \frac{5}{3}$

$135 = 5m$
 $27 = m$

c) $\frac{10}{14} = \frac{c}{35}$

$350 = 14c$
 $25 = c$

d) $\frac{5}{22} = \frac{35}{m}$

$770 = 5m$
 $154 = m$

e) $\frac{p}{12} = \frac{5}{15}$

$60 = 15p$
 $4 = p$

f) $\frac{6}{16} = \frac{w}{12}$

$72 = 16w$
 $4.5 = w$

g) $\frac{8.4}{y} = \frac{11.2}{6.8}$

$57.12 = 11.2y$
 $5.1 = y$

h) $\frac{5}{6} = \frac{3}{a}$

$18 = 5a$
 $3.6 = a$

i) $\frac{12}{20} = \frac{14}{x}$

$280 = 12x$
 $23\frac{1}{3} = x$

4. Find the unit rate.

a) $\frac{9 \text{ slices}}{3 \text{ people}} = \frac{x}{1}$

3 slices per person

b) $\frac{11 \text{ cups}}{22 \text{ servings}} = \frac{x}{1}$

0.5 cups per serving

c) $\frac{18 \text{ hours}}{6 \text{ meters}} = \frac{x}{1}$

3 hours per meter

d) $\frac{16 \text{ shapes}}{5 \text{ boxes}} = \frac{x}{1}$

3.2 shapes per box

5. Write and solve a proportion for each question.

a) If Charlie can type 75 words in 100 seconds, how many words can he type in 5 minutes?

$$\frac{\text{words}}{\text{seconds}} = \frac{75}{100} = \frac{x}{300}$$

$$22500 = 100x$$

225 words

$$225 = x$$

b) Emma collected 72 apples from the orchard and put an equal number of apples into 6 baskets. Mrs. Doolan wants 3 baskets of apples. How many apples will Mrs. Doolan receive?

$$\frac{\text{apples}}{\text{baskets}} = \frac{72}{6} = \frac{x}{3}$$

$$216 = 6x$$

36 apples

$$36 = x$$

c) One stone statue on Easter Island is 12 meters high. The nose of the statue is 3.3 meters long. If a proportional statue is only 10 meters high, how long will the nose be?

$$\frac{\text{height}}{\text{nose}} = \frac{12}{3.3} = \frac{10}{x}$$

$$33 = 12x$$

2.75 meters

$$2.75 = x$$

6. Solve each percent word problem. Round to the nearest tenth if necessary.

a) What is 40% of 75?

$$\frac{x}{75} = \frac{40}{100}$$

$$3000 = 100x$$

$$30 = x$$

b) 22 is 82% of what number?

$$\frac{22}{x} = \frac{82}{100}$$

$$2200 = 82x$$

$$26.8 = x$$

c) What percent of 72 is 16?

$$\frac{16}{72} = \frac{x}{100}$$

$$1600 = 72x$$

$$30\% = x$$

d) What number is 70% of 62?

$$\frac{x}{62} = \frac{70}{100}$$

$$4340 = 100x$$

$$43.4 = x$$

- e) There are 120 beads in a friendship necklace. 15% of the beads are made of glass. How many beads are made of glass? **Estimate: less than 120**

$$\frac{x}{120} = \frac{15}{100}$$

$$1800 = 100x$$

$$18 = x$$

18 glass beads

- f) Sarah answered 24 questions on her test correctly and earned an 80%. How many questions were on the test? **Estimate: more than 24**

$$\frac{24}{x} = \frac{80}{100}$$

$$2400 = 80x$$

$$30 = x$$

30 questions

- g) A runner is participating in the Boston Marathon. He has run 12 miles of the 26 mile course. What percent of the course has he run so far? **Estimate: little less than 50%**

$$\frac{12}{26} = \frac{x}{100}$$

$$1200 = 26x$$

$$46.15 = x$$

46.15% of the course

- h) 85% of the sixth graders voted to have outdoor recess. If there are 212 sixth graders, how many voted to have outdoor recess? **Estimate: less than 212**

$$\frac{x}{212} = \frac{85}{100}$$

$$18020 = 100x$$

$$180.2 = x$$

180 sixth graders