

4 Comparing Rates and Ratios

EVALUATED



Skill Builder

- 1 Given the ratios below, determine which one is equivalent to 4 : 3.

$$\frac{8}{5}, \frac{5}{4}, \frac{12}{8}, \frac{16}{12}$$

- 2 Given the ratios below, determine which one is equivalent to 3 : 5.

$$\frac{6}{9}, \frac{14}{25}, \frac{9}{15}, \frac{12}{16}$$

- 3 In the following situation, write the ratio of Top Flites to Titleists as a decimal.

In Peter's golf bag, he has 15 Top Flite golf balls and 9 Titleist golf balls.

- 4 In the following situation, write the ratio of girls to boys as a decimal.

A Math class has 12 boys and 15 girls.

- 5 Ernie's bag of marbles has 15 red ones and 18 blue ones. Bert's bag of marbles has 14 red ones and 16 blue ones. In which bag of marbles is the ratio of red to blue marbles the biggest?

- 6 Charlie has 30 hockey cards and 40 baseball cards. Alan has 75 hockey cards and 100 baseball cards. In which card collection is the ratio of hockey cards to baseball cards the biggest?

- 7 Linus earned \$296 for working 32 hours. Lucy earned \$266 for working 28 hours. Who is paid the higher unit rate (hourly wage)?

- 8 Laverne can swim 18 lengths of the pool in 15 minutes. Shirley can swim 24 lengths of the same pool in 20 minutes. Who can swim faster?

- 9 A 200g box of oatmeal sells for \$3.50, and a 300g box sells for \$5.25. Which box is the cheaper per gram?

- 10 A dozen golf balls are sold for \$42, and 18 golf balls are sold for \$54. What is the better buy?



Objective 2.3 To compare ratios or rates

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1. Complete the expressions with $<$, $>$ or $=$.

a) $\frac{3}{4}$ $\frac{9}{12}$

b) $\frac{2}{3}$ $\frac{5}{8}$

c) $\frac{11}{18}$ $\frac{5}{9}$

d) $\frac{7}{8}$ $\frac{15}{16}$

e) $\frac{3}{4}$ $\frac{7}{12}$

f) $\frac{13}{4}$ $\frac{11}{6}$

2. a) Express each of the following ratios using a common denominator.

1) $\frac{4}{6} =$ _____

2) $\frac{7}{9} =$ _____

3) $\frac{9}{12} =$ _____

b) Which is the largest? _____

c) Which is the smallest? _____

3. Place the following ratios in ascending order.

1 : 3, 3 : 4, 4 : 6, 5 : 8, 7 : 12.

4. Complete these equalities to obtain an equivalent ratio.

a) $\frac{2}{3} = \frac{\boxed{}}{6}$

b) $\frac{3}{4} = \frac{\boxed{}}{8}$

c) $\frac{9}{12} = \frac{\boxed{}}{4}$

d) $\frac{10}{15} = \frac{\boxed{}}{3}$

e) $\frac{15}{20} = \frac{3}{\boxed{}}$

f) $\frac{\boxed{}}{12} = \frac{3}{4}$

g) $\frac{9}{\boxed{}} = \frac{3}{5}$

h) $\frac{12}{8} = \frac{\boxed{}}{16}$

5. Determine the higher rate in each case.

a) $\frac{80 \text{ km}}{5 \text{ h}}$

or $\frac{120 \text{ km}}{8 \text{ h}}$

b) $\frac{\$250}{8 \text{ units}}$

or $\frac{\$260}{9 \text{ units}}$

c) $\$9.88/20 \text{ exposures}$

or $\$12.58/25 \text{ exposures}$

d) 50 goals in 49 games

or 73 goals in 64 games

e) $\$350/\text{month}$

or $\$3\ 850/\text{year}$

f) $80\text{m}^2/\$65$

or $120\text{m}^2/\$90$

g) 180 words in 4 min

or 225 words in 5 min.

h) $96\text{¢}/5 \text{ km}$

or $180\text{¢}/15 \text{ km}$

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6. a) Using a ratio, express the results of each participant in the table.

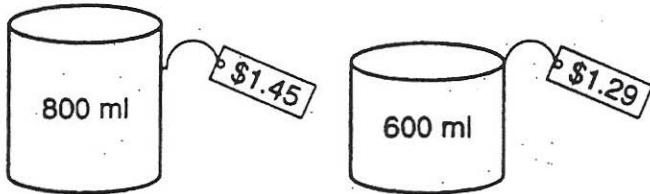
- b) Express each result out of 100.

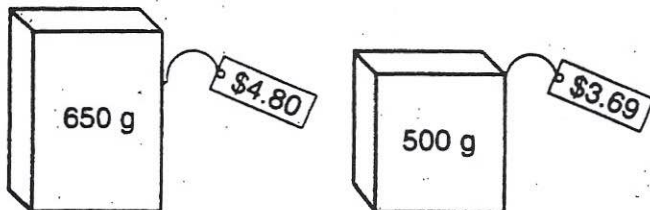
- c) Who has the better result?

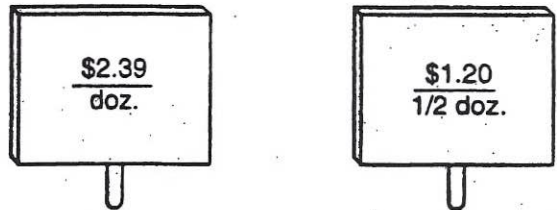
- d) Who has the poorest result?

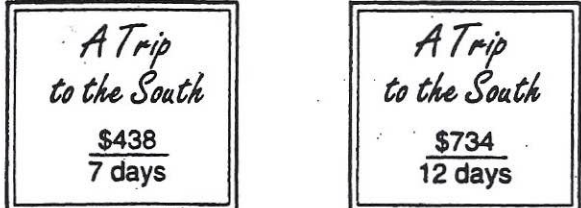
| Participant | Right answers | Total number of answers |
|-------------|---------------|-------------------------|
| Anne | 30 | 50 |
| Benoît | 14 | 25 |
| Christine | 70 | 100 |
| Daniel | 13 | 20 |

7. Which is the better (i.e., the lower) price/quantity rate?

a) 

b) 

c) 

d) 

8. Who had the better result?

- a) Alan, who got 12 baskets in 20 attempts, or Martine, who got 24 baskets in 30 attempts?
- b) Margo, who picked 16.8 L of strawberries in 4 h, or Gilbert, who picked 12.2 L in 2 h 30 min?
- c) Sue, who sold 320 tickets in 5 days, or Chantale, who sold 435 tickets in 7 days?
- d) Martin, who got 42/60, or Luc, who got 73/90?

Name: _____

Group: _____ Date: _____

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REVIEW

2-B

11. It takes approximately 3 h to cook a medium-sized chicken. What can be done to reduce the cooking time?

12. A year ago, a man bought 6 calculators for \$100. Today, he bought 7 for the same price. What change occurred in the unit price?

13. Vinegar is a solution containing 5% acetic acid. What must be done to make a solution of 3%?

14. It costs \$5 to fish at a fish farm, and \$3 for every fish caught.

a) Is this a proportional situation? _____

b) Illustrate this situation using a table of values.

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15. At a flower shop, a bouquet of 5 flowers costs \$8, and a bouquet of 12 flowers costs \$19.20. Is the price of the bouquets proportional to the number of flowers?

16. Candace scored 5 goals in 4 hockey games. At this rate, how many goals should she score in 28 games?
