Pre-Test

Scale each ratio up or down to determine the unknown quantity. Explain how you calculated each answer.

1. $\dfrac{3 \text{ pies}}{16 \text{ people}} = \dfrac{12 \text{ pies}}{?}$

2. $\dfrac{\$420}{40 \text{ hours of work}} = \dfrac{\$84}{?}$

3. $\dfrac{510 \text{ miles}}{15 \text{ gallons}} = \dfrac{?}{1 \text{ gallon}}$

1

Determine each measurement.

Weight	Capacity
16 ounces = 1 pound	8 fluid ounces = 1 cup
2000 pounds = 1 ton	2 cups = 1 pint
	4 cups = 1 quart
	2 pints = 1 quart
	4 quarts = 1 gallon

4. How many pounds are in 3.75 tons?

5. How many fluid ounces are in 1 quart?

NAME_____ DATE _____

6. The owner of a city parking garage uses a rate table so that he can look up the parking charges quickly.

   a. Complete the table.

Hours	0.5	1	1.5	2	2.5	3	3.5	4
Charge	$2.25			$9.00				

   b. What is the garage's unit rate for parking?

   c. Kristin was charged $24.75 for parking. How many hours did she park her car at the garage? Describe how you used the table to get your answer.

7. A person who weighs 150 pounds on Earth would weigh 56.5 pounds on Mars. Determine how much a child who weighs 60 pounds on Earth would weigh on Mars.

1

8. One brand of orange juice is sold in four different sizes.

The 8-ounce bottle costs $0.99.   The 18-ounce bottle costs $1.49.

The 48-ounce carton costs $2.49.   The 64-ounce carton costs $3.75.

a. Calculate the unit rate (cost per ounce) for each size.

b. Which size is the best buy? Explain how you know.

Post-Test

NAME_____ DATE _____

Scale each ratio up or down to determine the unknown quantity. Explain how you calculated each answer.

1. $\dfrac{3 \text{ cakes}}{25 \text{ people}} = \dfrac{?}{125 \text{ people}}$

2. $\dfrac{448 \text{ miles}}{16 \text{ gallons}} = \dfrac{?}{1 \text{ gallon}}$

3. $\dfrac{162 \text{ inches}}{4.5 \text{ yards}} = \dfrac{486 \text{ inches}}{?}$

1

Determine each measurement.

Length	Time
12 inches = 1 foot	60 seconds = 1 minute
36 inches = 1 yard	60 minutes = 1 hour
3 feet = 1 yard	3600 seconds = 1 hour
5280 feet = 1 mile	24 hours = 1 day
	7 days = 1 week

4. How many feet are in 4.5 miles?

5. How many seconds are in 1 week?

NAME_____ DATE _____

6. The cashier at a health club uses a rate table so that she can look up charges for walk-in (non-member) visits quickly.

   a. Complete the table.

Hours	0.5	1	1.5	2	2.5	3	3.5	4
Charge	$3.25			$13.00				

   b. What is the health club's unit rate for walk-ins?

   c. Jason was charged $29.25 for using the health club as a walk-in. How many hours did he use the health club? Describe how you used the table to get your answer.

7. A person who weighs 125 pounds on Earth would weigh 47.2 pounds on Mercury. Determine how much a child who weighs 50 pounds on Earth would weigh on Mercury.

1

8. One brand of canned salmon is sold in four different sizes.

The 7-ounce can costs $3.49.   The 16-ounce can costs $6.49

The 24-ounce can costs $8.49.   The 30-ounce can costs $10.99.

a. Calculate the unit rate (cost per ounce) for each size.

b. Which size is the best buy? Explain how you know.

Mid-Chapter Test

Choose the best description for each ratio from the following: part-to-part ratio, a part-to-whole ratio, a rate, or a unit rate.

1. $\dfrac{15 \text{ women}}{12 \text{ men}}$

2. 120 miles in 2 hours

3. $\dfrac{220 \text{ seventh grade students}}{630 \text{ middle school students}}$

4. $\dfrac{5280 \text{ feet}}{1 \text{ mile}}$

Scale each ratio up or down to determine the unknown quantity. Explain how you calculated each answer.

5. $\dfrac{8 \text{ pizzas}}{3 \text{ people}} = \dfrac{?}{9 \text{ people}}$

6. $\dfrac{\$90}{12 \text{ hours of work}} = \dfrac{\$22.50}{?}$

7. $\dfrac{5 \text{ daisies}}{2 \text{ roses}} = \dfrac{?}{24 \text{ roses}}$

8. $\dfrac{240 \text{ ounces}}{15 \text{ pounds}} = \dfrac{48 \text{ ounces}}{?}$

1

Calculate each unit rate.

9. $\dfrac{512 \text{ miles}}{16 \text{ gallons}}$

10. $\dfrac{\$52.50}{5 \text{ hours}}$

11. $\dfrac{192 \text{ fluid ounces}}{6 \text{ quarts}}$

12. $\dfrac{38.1 \text{ centimeters}}{15 \text{ inches}}$

13. $\dfrac{1152 \text{ square inches}}{8 \text{ square feet}}$

14. Rebecca and Brian are planning a party to honor the teachers at their school. They each suggest a recipe for apple cider punch to serve at the party.

Rebecca's Recipe
1 part apple cider
2 parts ginger ale

Brian's Recipe
2 parts apple cider
3 parts ginger ale

a. For each recipe, write a ratio that compares the number of parts of apple cider to the total number of parts.

NAME_____ DATE _____

b. Which recipe will have the stronger apple taste? Explain how you determined your answer.

c. Rebecca and Brian expect that 40 teachers and 95 students will attend the party and that, on the average, each of them will drink 6 fluid ounces of punch. How many fluid ounces of punch will be needed?

d. Determine the unit rate for the fluid ounces of punch that there would be in one part of the recipe for each recipe.

e. How many fluid ounces of apple cider and how many fluid ounces of ginger ale will be needed to make enough punch for the party using Brian's recipe?

Scale each common measurement up or down to determine the unknown quantity.

15. $\dfrac{2.2 \text{ pounds}}{1 \text{ kilogram}} = \dfrac{?}{8 \text{ kilograms}}$

16. $\dfrac{320 \text{ cups}}{20 \text{ gallons}} = \dfrac{16 \text{ cups}}{?}$

17. $\dfrac{3600 \text{ seconds}}{1 \text{ hour}} = \dfrac{?}{12 \text{ hours}}$

18. $\dfrac{36 \text{ inches}}{1 \text{ yard}} = \dfrac{?}{25 \text{ yards}}$

NAME _____ DATE _____

Determine each measurement.

Weight	Capacity
16 ounces = 1 pound	8 fluid ounces = 1 cup
2000 pounds = 1 ton	2 cups = 1 pint
	4 cups = 1 quart
	2 pints = 1 quart
	4 quarts = 1 gallon

19. How many ounces are in 15 pounds?

20. How many cups are in 11 pints?

21. How many fluid ounces are in 1 gallon?

End of Chapter Test

NAME_____ DATE _____

Scale each ratio up or down to determine the unknown quantity. Explain how you calculated each answer.

1. $\dfrac{24 \text{ cookies}}{4 \text{ people}} = \dfrac{?}{28 \text{ people}}$

2. $\dfrac{\$120}{15 \text{ hours of work}} = \dfrac{\$40}{?}$

3. $\dfrac{\$59.85}{15 \text{ gallons}} = \dfrac{?}{1 \text{ gallon}}$

4. $\dfrac{100 \text{ meters}}{12.5 \text{ seconds}} = \dfrac{500 \text{ meters}}{?}$

5. Samantha and Caden are planning an end-of-school party for the computer club at their school. They each suggest a recipe for punch to serve at the party.

Samantha's Recipe
3 parts cranapple juice
2 parts lemonade

Caden's Recipe
4 parts cranapple juice
3 parts lemonade

a. For each recipe, write a ratio that compares the number of parts of lemonade to the total number of parts.

1

b. Which recipe will have the stronger lemon taste? Explain how you determined your answer.

Determine each measurement.

Length	Time
12 inches = 1 foot	60 seconds = 1 minute
36 inches = 1 yard	60 minutes = 1 hour
3 feet = 1 yard	3600 seconds = 1 hour
5280 feet = 1 mile	24 hours = 1 day
	7 days = 1 week

6. How many inches are in 8 yards?

7. How many minutes are in 1 week?

NAME_____ DATE _____

8. On his last math test, Brandon completed 12 problems in 48 minutes.

   a. Write unit rates for this situation as $\dfrac{\text{minutes}}{\text{problem}}$ and as $\dfrac{\text{problems}}{\text{minute}}$.

   b. If he worked at a constant rate, how long did it take Brandon to complete 8 problems? Explain how you can use a unit rate to answer this question.

   c. If he worked at a constant rate, how many math problems did Brandon complete in 36 minutes? Explain how you can use a unit rate to answer this question.

9. Melody uses a rate table to keep track of how much she earns as a babysitter based on how long she works.

   a. Complete the table.

Hours Worked	0.5	1	1.5	2	2.5	3	3.5	4
Amount Earned						$19.50		

   b. What is Melody's unit rate for babysitting?

   c. Determine Melody's charge for 5 hours of babysitting. Describe how you used the table to get your answer.

d. Melody made $42.25 for a babysitting job. How many hours did she babysit? Describe how you used the table to get your answer.

10. The New Jersey Division of Fish and Wildlife keeps track of the beaver population in the Raritan River. They tagged 42 beavers and released them. A week later, they captured 54 beavers, including 14 tagged beavers. What is a good estimate of the beaver population in the Raritan River?

11. A person who weighs 60 kilograms on Earth would weigh 54.5 kilograms on Venus. Determine how much a child who weighs 25 kilograms on Earth would weigh on Venus.

NAME_____ DATE _____

Calculate the unit rate for each item. Round to the nearest cent.

12. A box of 4 light bulbs costs $3.79.

13. A bag of 5 oranges costs $2.19.

14. A 14-ounce box of cereal costs $3.98.

15. A package of 12 bars of soap costs $5.25.

16. A box of 20 trash bags costs $3.63

17. An 8-ounce block of cheese costs $3.59.

18. Nina shops at two different stores, Fran's Foods and Diane's Deli. She compares the prices in the two stores to determine which one has the better buy on the items she needs. Complete the table.

Item	Fran's Foods	Diane's Deli	Better Buy
Ketchup	$3.69 for 14 ounces	$2.29 for 12 ounces	Diane's
Cereal	$3.36 for 16 ounces	$5.52 for 24 ounces	
Apples	$3.80 for 10	$0.86 for 4	
Meat	$3.87 for 3 pounds	$6.25 for 5 pounds	
Soup	$1.99 for 16 ounces	$3.99 for 24 ounces	

Standardized Test Practice

1. Bottled apple juice is sold in four different sizes. Which is the best buy?

   a. 10-ounce bottle for $2.49

   b. 16-ounce bottle for $2.99

   c. 24-ounce bottle for $3.99

   d. 36-ounce bottle for $6.29

2. Alicia, Carlos, Henry, and Zoe each completed a hike. The table shows their distances and times.

Hiker	Distance	Time
Alicia	5 miles	1.4 hours
Carlos	8 miles	2.5 hours
Henry	3 miles	1.1 hours
Zoe	4 miles	1.3 hours

   Who hiked the fastest?

   a. Alicia

   b. Carlos

   c. Henry

   d. Zoe

3. Which ratio is a unit rate?

   a. $\dfrac{5 \text{ green marbles}}{8 \text{ blue marbles}}$

   b. $\dfrac{58 \text{ miles}}{1 \text{ hour}}$

   c. $\dfrac{\$56}{7 \text{ hours}}$

   d. $\dfrac{1 \text{ cup flour}}{3 \text{ eggs}}$

1

4. It takes 3 eggs to bake 36 cupcakes. How many eggs does it take to bake 12 cupcakes?

   a. 1 egg

   b. 2 eggs

   c. 4 eggs

   d. 6 eggs

5. Amanda uses the recipe shown to make punch for a family party.

Amanda's Punch Recipe
7 parts mixed fruit juice
2 parts lemonade

How much lemonade will she need to make 180 fluid ounces of punch?

   a. 140 fluid ounces

   b. 40 fluid ounces

   c. 36 fluid ounces

   d. 60 fluid ounces

6. A package of 19 medicated cough drops costs $0.99. What is the unit cost?

   a. $0.08 per cough drop

   b. $0.50 per cough drop

   c. $0.76 per cough drop

   d. $0.05 per cough drop

7. Which is the unknown quantity?

$$\frac{8 \text{ tickets}}{\$148} = \frac{2 \text{ tickets}}{?}$$

   a. $74

   b. $45

   c. $37

   d. $18.50

NAME_____ DATE _____

8. A sampling of hemlock trees revealed that 7 out of 200 trees are infected with insects. About how many of the 950 hemlock trees in a state park are infected with insects?

   a. 28

   b. 33

   c. 66

   d. 136

9. What is the unknown quantity?

   $$\frac{36 \text{ inches}}{1 \text{ yard}} = \frac{?}{5 \text{ yards}}$$

   a. 432 inches

   b. 108 inches

   c. 7.2 inches

   d. 180 inches

10. Kayla uses a rate table to keep track of how much she earns on her job based on how long she works.

Hours Worked	1	2	3	4	5	6	7	8
Amount Earned	?	$19.00	?	?	?	?	?	?

   How much will Kayla earn if she works a 5-hour shift?

   a. $38.00

   b. $42.50

   c. $47.50

   d. $66.50

11. A beverage company makes 100% cranapple juice, which is made up of 3 parts of cranberry juice to 5 parts of apple juice, with no other ingredients. How much apple juice is there in a 48-fluid ounce bottle of cranapple juice?

   a. 30 fluid ounces

   b. 36 fluid ounces

   c. 6 fluid ounces

   d. 18 fluid ounces

1

12. Which ratio can you get by scaling down the ratio $\frac{72 \text{ campers}}{8 \text{ counselors}}$?

    a. $\frac{16 \text{ campers}}{2 \text{ counselors}}$

    b. $\frac{38 \text{ campers}}{4 \text{ counselors}}$

    c. $\frac{27 \text{ campers}}{3 \text{ counselors}}$

    d. $\frac{1 \text{ counselor}}{9 \text{ campers}}$

13. Alicia is making apple pies. She uses $1\frac{1}{2}$ cups of sugar for every 2 pies. She has $5\frac{1}{4}$ cups of sugar left in her bag. How many pies can she make?

    a. $3\frac{1}{2}$ pies

    b. 5 pies

    c. $6\frac{1}{2}$ pies

    d. 7 pies

14. A breakfast cereal is available in four different sizes. Which is the best buy?

    a. 10-ounce box for $2.80

    b. 16-ounce box for $3.75

    c. 24-ounce box for $4.50

    d. 30-ounce box for $5.25

15. How many minutes are in 1 day?

    a. 86,400 minutes

    b. 2880 minutes

    c. 1440 minutes

    d. 720 minutes

16. An automatic dialing system can make 12 telephone calls in one minute. To the nearest minute, how long will it take for the system to make 500 calls?

    a. 42 minutes

    b. 8 minutes

    c. 50 minutes

    d. 12 minutes

1

17. What do you call an equation that states that two ratios are equal?

   a. a rate

   b. a proportion

   c. a fraction

   d. a multiple

18. Jeremy bought 3 pairs of pants for $68.25. Each pair of pants cost the same amount. How much will he pay for 5 pairs of pants at the same price per pair?

   a. $22.75

   b. $113.75

   c. $170.63

   d. $341.25

19. Four friends are each baking a batch of chocolate chip cookies. They each use a different recipe.

   Lauren uses 12 ounces of chocolate chips to make 60 cookies.

   Noah uses 8 ounces of chocolate chips to make 48 cookies.

   Katherine uses 15 ounces of chocolate chips to make 85 cookies.

   Tom uses 10 ounces of chocolate chips to make 40 cookies.

   Whose recipe produces the cookies with the most chocolate flavor?

   a. Lauren

   b. Noah

   c. Katherine

   d. Tom

20. A person who weighs 100 pounds on Earth would weigh 37.7 pounds on Mars. If m represents a person's weight, in pounds, on Mars, which proportion could you solve to determine the weight on Mars of a person who weighs 160 pounds on Earth?

   a. $\dfrac{m}{160} = \dfrac{37.7}{100}$

   b. $\dfrac{160}{m} = \dfrac{37.7}{100}$

   c. $\dfrac{100}{160} = \dfrac{m}{37.7}$

   d. $\dfrac{100}{m} = \dfrac{160}{37.7}$