Health Care Math

Ratio and Proportion

1. Write the following relationships as ratios using a colon (Similar to p.94 #1-5)

10 hours out of 24 hours

2. Write the following relationships as ratios using a colon (Similar to p.94 #1-5)

2 cavities to 12 teeth

3. Simplify the following ratios. Write each answer as a ratio (Similar to p.95 #1-10)

$$30 : 7\frac{1}{2}$$

4. Simplify the following ratios. Write each answer as a ratio (Similar to p.95 #1-10)

$$\frac{80}{60} : 16$$

5. Simplify the following ratios. Write each answer as a ratio (Similar to p.95 #1-10)

$$20 : \frac{6}{5}$$

6. Simplify the following ratios. Write each answer as a ratio (Similar to p.95 #1-10)

$$0.6 : \frac{20}{9}$$

7. Simplify the following ratios. Write each answer as a ratio (Similar to p.95 #1-10)

$$5\frac{1}{6} : 3$$

8. Simplify the following ratios. Write each answer as a ratio (Similar to p.95 #1-10)

$$3\frac{1}{3}$$

9. Are these ratios proportions? (Similar to p.96 #1-5)

$$9 : 2 = 27 : 6$$

10. Are these ratios proportions? (Similar to p.96 #1-5)

$$3 : 4 = 7 : 2$$

11. Solve for x (Similar to p.97 #1-10)

$$5 : 10 = x : 4$$

12. Solve for x
(Similar to p.97 #1-10)

$$x : 1 = 2 : 8$$

13. Solve for x
(Similar to p.97 #1-10)

$$3 : 8 = 5 : x$$

Some basic guidelines need to be followed for formatting answers in measurement conversions:

If the answer is in feet, yards, cups, pints, quarts, gallons, teaspoons, tablespoons, or pounds, use fractions if there is a remainder.

If the answer is in kilograms, milliliters, or money amounts, use decimals. The correct format ensures correct answers.

Approximate Equivalents

1 inch	= 2.54 centimeters	1 cup	= 8 ounces
1 foot	= 12 inches	1 pint	= 500 milliliters
1 yard	= 3 feet	1 quart	= 32 ounces
1 pound	= 16 ounces	1 quart	= 1,000 milliliters
1 kilogram	= 2.2 pounds		
1 tablespoon	= 3 teaspoons	1 fluid ounce	= 30 milliliters
1 quart	= 2 pints	1 teaspoon	= 5 milliliters
1 gallon	= 4 quarts	1 fluid ounce	= 2 tablespoons

14. Solve the conversion problem
(Similar to p.99 #1-20)

31 feet = _____ yards

15. Solve the conversion problem
(Similar to p.99 #1-20)

16 quarts = _____ gallons

16. Solve the conversion problem
(Similar to p.99 #1-20)

6 pints = _____ cups

17. Solve the conversion problem (Similar to p.99 #1-20)

12 tablespoons = _____ teaspoons

18. Solve the conversion problem (Similar to p.99 #1-20)

$6\frac{1}{2}$ pounds = _____ ounces

19. Solve the conversion problem (Similar to p.99 #1-20)

6 medicine cups = _____ milliliters

(1 medicine cup = 1 fluid ounce)

20. Solve the conversion problem (Similar to p.99 #1-20)

25.5 mL = _____ teaspoons

21. Solve the conversion problem (Similar to p.99 #1-20)

800 milliliters = _____ pints

22. Solve the conversion problem (Similar to p.99 #1-20)

$5\frac{1}{2}$ cups = _____ ounces

23. (Similar to p.100 #1-5)

If a dose of 200 milligrams is contained in 8 cubic centimeters, how many cubic centimeters are in 60 milligrams?

24. Solve for x
(Similar to p.102 #1-12)

$$14.5\ \text{mg} : 6\ \text{mL} = 29\ \text{mg} : x\ \text{mL}$$

25. Solve for x
(Similar to p.102 #1-12)

$$\text{grains}\ \frac{1}{2} : 20\ \text{mg} = \text{grains}\ x : 80\ \text{mg}$$

26. Solve for x
(Similar to p.102 #1-12)

$$2000\ \text{units} : 1\ \text{mL} = 2800\ \text{units} : x\ \text{mL}$$

Carbohydrates	→ 4 calories per 1 gram
Fats	→ 9 calories per 1 gram
Proteins	→ 4 calories per 1 gram

27. Solve for x
(Similar to p.104 #1-8)

900 calories of fat = _____ grams

28. Solve for x
(Similar to p.104 #1-8)

84 calories of protein = ____ grams