

# ARE YOU READY FOR THE MATH TEST?

## Unit 6: Ratios, Rates, and Proportional Reasoning End of Unit Assessment



1. State whether or not each pair of ratios forms a proportion. If not, explain why.

a.  $\frac{15}{18} = \frac{20}{24}$  \_\_\_\_\_

c.  $\frac{\$14}{3hr} = \frac{\$84}{18hr}$  \_\_\_\_\_

b.  $\frac{2bikes}{8tires} = \frac{10tires}{40bikes}$  \_\_\_\_\_

d.  $\frac{15sec}{21sec} = \frac{10in}{14in}$  \_\_\_\_\_

2. Solve each proportion using the cross product method. Round answers to the hundredths place if necessary.

a.  $\frac{18shapes}{4boxes} = \frac{x}{22boxes}$

b.  $\frac{7in.rain}{3days} = \frac{55in.rain}{X}$

c.  $\frac{x}{9m} = \frac{16kites}{0.25m}$

d.  $\frac{3apples}{5lunches} = \frac{x}{60lunches}$

3. Use and solve the following proportion to solve all percent word problems:

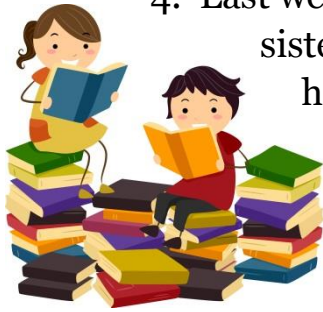
$$\frac{\%}{100} = \frac{\text{is (part)}}{\text{of (whole)}}$$



a. Twelve of the animals at Medfield Animal Hospital are cats. This is 30% of the animals. What is the total number of cats at MAH?

b. On his last map quiz, Carlos answered 17 questions correctly and earned a score of 85%. How many questions in all were there?

c. Four and a half inches of snow fell in Medfield on Sunday afternoon. This represents 22% of the total snowfall so far this winter. How many inches have fallen in total?



4. Last weekend Charlie read 5 pages for every 3 pages his little sister Sallie read. If Charlie read 48 pages more than Sallie how many pages did they read all together? Create a **tape diagram** to model your answer.

5. To make her famous fruit punch Mrs. Caprio uses 3 cups of grape juice for every 2 cups of apple juice. If she has 12 cups of grape juice how many cups of apple juice will she need? Model your answer on the **double number line** below:



### CONVERSIONS

1 cup = 8 fluid ounces

1 pint = 2 cups

1 quart = 2 pints

1 gallon = 4 quarts

1 gallon  $\approx$  3.785 liters

1 liter  $\approx$  0.264 gallon

1 liter = 1000 cubic centimeters

1 inch = 2.54 centimeters

1 meter  $\approx$  39.37 inches

1 mile = 5280 feet

1 mile = 1760 yards

1 mile  $\approx$  1.609 kilometers

1 kilometer  $\approx$  0.62 mile

1 pound = 16 ounces

1 pound  $\approx$  0.454 kilogram

1 kilogram  $\approx$  2.2 pounds

1 ton = 2000 pounds

**Use the chart above to set up a proportion and solve these system conversions:**

6a. How many centimeters are in 8.5 inches?

6b. How many miles are in 6,160 yards?

6c. How many pounds are in 9.2 kilograms?

6d. How many liters are in 1.32 gallons?

