

**METHOD 2**

**Writing a Proportion** Another alternative approach is to write and solve a proportion.

**STEP 1** Write a proportion involving two ratios that each compare the amount of water (in gallons) to the amount of salt (in tablespoons).

$$\frac{20}{100} = \frac{30}{s}$$

← amount of water (gallons)  
← amount of salt (tablespoons)

**STEP 2** Solve the proportion.

$$\frac{20}{100} = \frac{30}{s} \quad \text{Write proportion.}$$

$$20s = 100 \cdot 30 \quad \text{Cross products property}$$

$$20s = 3000 \quad \text{Simplify.}$$

$$s = 150 \quad \text{Divide each side by 20.}$$

► You should add 150 tablespoons of salt to a 30 gallon tank.

**CHECK** Check your answer by writing each ratio in simplest form.

$$\frac{20}{100} = \frac{1}{5} \quad \text{and} \quad \frac{30}{150} = \frac{1}{5}$$

Because each ratio simplifies to  $\frac{1}{5}$ , the answer is correct.

**PRACTICE**

- WHAT IF?** Suppose the fish tank in the problem above is a 22 gallon tank. How many tablespoons of salt should be added to the tank? *Describe* which method you used to solve this problem.
- ADVERTISING** A local newspaper charges by the word for printing classified ads. A 14 word ad costs \$5.88. How much would a 21 word ad cost? Solve this problem using two different methods.
- REASONING** In Exercise 2, how can you quickly determine the cost of a 7 word ad? *Explain* how you could use the cost of a 7 word ad to solve the problem.
- NUTRITION** A company sells fruit smoothies in two sizes of bottles: 6 fluid ounces and 10 fluid ounces. You know that a 6 ounce bottle contains 96 milligrams of sodium. How many milligrams of sodium does a 10 ounce bottle contain?
- ERROR ANALYSIS** A student solved the problem in Exercise 4 as shown. *Describe* and correct the error made.

Let  $x$  = the number of milligrams of sodium in a 10 ounce bottle.

$$\frac{6}{x} = \frac{10}{96}$$

$$576 = 10x$$

$$57.6 = x$$



<b>Hours of sleep</b>	6.5	7	8.5	9
<b>Calories burned</b>	390	420	510	540