Name _____

Using Proportions

The park ranger stocks the fishing pond keeping a ratio of 4 sunfish for every 3 perch. Suppose 296 sunfish are put in the pond. How many perch should the ranger stock?

The proportion at the right can be used to find the number of perch (p).

$$\underbrace{\frac{4}{3} = \frac{296}{p}}_{\text{perch}} \quad \overbrace{\phantom{\frac{4}{3} = \frac{296}{p}}}^{\text{sunfish}}$$

To solve the proportion, use cross products.

$$\frac{4}{3} = \frac{296}{p} \quad \Rightarrow \quad 4 \times p = 3 \times 296$$

$$4 \times p = 888$$

$$\frac{4 \times p}{4} = \frac{888}{4}$$

$$p = 222$$

The ranger should stock 222 perch.

Solve. Use a proportion.

1. Cole can pick 2 rows of beans in 30 minutes. How long will it take him to pick 5 rows if he works at the same rate?

2. Suppose 4 kilograms of meat will serve 20 people. How many kilograms are needed to serve 110 people?

3. At 90 kilometers per hour, a car travels 25 meters per second. How many meters per second will a car travel at 75 kilometers per hour?

4. Maria Lopes can drive 135 kilometers on 3 gallons of gasoline. How many gallons will her car use on a 657-kilometer trip?

5. A recipe uses 7 cups of flour for 4 loaves of bread. How many cups of flour are needed for 25 loaves of bread?

6. A tree casts a shadow 30 meters long. A 2.8-meter pole casts a shadow 2 meters long. How tall is the tree?

Name _____

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Problem Solving

Write a proportion to represent each problem. Then, solve.

1. Laura receives $4 for each magazine subscription she sells over the phone. How much does she receive if she sells 28 subscriptions?

2. One gallon of water weighs about 8.33 pounds. About how much does the water in a 30-gallon fish tank weigh?

3. A wrapping machine can wrap one candy bar in four seconds. How many bars can be wrapped in five minutes?

4. Jack pays $475.32 each year for insurance. It is deducted monthly from his pay. How much is deducted each month for insurance?

5. The first three days as a salesperson, Wilma drove a total of 135 miles. At this rate, how far will she drive in 15 days?

6. In air, sound travels about one mile in five seconds. If it were possible, how long would it take Susan to hear you call her name if she lived 80 miles away?

7. The circumference of a circle with a diameter of six cm is about 18.84 cm. What is the approximate circumference of a circle with a diameter of nine cm?

8. Harvey must pay a sales tax of 5¢ on every dollar. How much tax must he pay on a pair of slacks costing $18?