

Reteaching Worksheet 9-3

Application: Using Proportions Homework

Example: 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).

$$\begin{array}{c} \text{sunfish} \\ \overbrace{4 = \frac{296}{p}} \\ \underbrace{3} \\ \text{perch} \end{array}$$

To solve the proportion, use cross products.

$$\begin{aligned} \frac{4}{3} &= \frac{296}{p} && \blacktriangleright && 4 \cdot p &= 3 \cdot 296 \\ &&& && 4 \cdot p &= 888 \\ &&& && \frac{4 \cdot p}{4} &= \frac{888}{4} \\ &&& && p &= 222 \end{aligned}$$

The ranger should stock 222 perch.

Write a proportion that could be used to solve for each variable. Then solve.

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 of the meat 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 Lopez 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?