

LESSON
2.7**Challenge Practice***For use with the lesson "Solve Proportions Using Cross Products"*

In Exercises 1–5, solve the proportion for x and determine what happens to the value of x as y increases.

1. $\frac{3}{x} = \frac{4}{y}$

2. $\frac{2}{x+1} = \frac{-3}{y+2}$

3. $\frac{x+3}{5} = \frac{2}{y-2}$

4. $\frac{x-1}{2} = \frac{y+1}{-4}$

5. $1:x = (y+2):4$

6. A wildlife biologist estimates that the ratio of invasive plants to indigenous plants in a city park is 4:3. There are about 350,000 plants in the park. How many invasive plants does the biologist estimate are in the park?
7. The ratio of right handed people to left handed people is estimated to be 9:1. If there are 120 left handed people in a town, how many right handed people would you expect there to be?
8. The ratio of English speaking persons to non-English speaking persons in the world is estimated to be 1:7. If there are 5.25 billion people in the world that do not speak English, then how many people in the world speak English?
9. A wildlife biologist uses a large net to collect a sample of 100 fish from a pond. If the sample has 45 largemouth bass, and the pond holds 1260 fish in total, how many largemouth bass would the biologist expect are in the pond?
10. A carpenter has a bag containing two types of nails and weighing three pounds. The finishing nails weigh 150 nails per pound and the framing nails weigh 30 nails per pound. If the ratio of finishing nails to framing nails is 25:1, then how many finishing nails are in the bag?