

Lesson 3.2 Solving Ratios

A proportion can be used in problem solving.

The ratio of apples to oranges is 4 to 5. There are 20 oranges in the basket. How many apples are there?

$$\frac{4}{5} = \frac{n}{20} \quad \text{Set up a proportion, using } n \text{ for the missing number.}$$

$$4 \times 20 = 5 \times n \quad \text{Cross-multiply.}$$

$$\frac{80}{5} = n \quad \text{Solve for } n.$$

$$16 = n \quad \text{There are 16 apples.}$$

Solve.

a

1. $\frac{1}{3} = \frac{n}{24}$ _____

b

$\frac{4}{9} = \frac{n}{36}$ _____

c

$\frac{5}{45} = \frac{n}{9}$ _____

2. $\frac{3}{5} = \frac{n}{15}$ _____

$\frac{10}{70} = \frac{n}{7}$ _____

$\frac{25}{40} = \frac{n}{16}$ _____

3. $\frac{7}{12} = \frac{n}{36}$ _____

$\frac{13}{26} = \frac{n}{4}$ _____

$\frac{7}{1} = \frac{n}{3}$ _____

4. $\frac{8}{5} = \frac{n}{40}$ _____

$\frac{2}{6} = \frac{n}{33}$ _____

$\frac{5}{13} = \frac{n}{39}$ _____

5. $\frac{5}{6} = \frac{n}{18}$ _____

$\frac{9}{8} = \frac{n}{32}$ _____

$\frac{2}{3} = \frac{n}{15}$ _____