

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	b	c
1. $\frac{1}{3} = \frac{n}{24}$ 8 _____	$\frac{4}{9} = \frac{n}{36}$ 16 _____	$\frac{5}{45} = \frac{n}{9}$ 1 _____

2. $\frac{3}{5} = \frac{n}{15}$ 9 _____	10 $\frac{10}{70} = \frac{n}{7}$ 1 _____	10 $\frac{25}{40} = \frac{n}{16}$ 10 _____
--	---	---

3. $\frac{7}{12} = \frac{n}{36}$ 21 _____	2 $\frac{13}{26} = \frac{n}{4}$ 2 _____	21 $\frac{7}{1} = \frac{n}{3}$ 21 _____
--	--	--

4. $\frac{8}{5} = \frac{n}{40}$ 64 _____	11 $\frac{2}{6} = \frac{n}{33}$ 11 _____	15 $\frac{5}{13} = \frac{n}{39}$ 15 _____
---	---	--

5. $\frac{5}{6} = \frac{n}{18}$ 15 _____	36 $\frac{9}{8} = \frac{n}{32}$ 36 _____	10 $\frac{2}{3} = \frac{n}{15}$ 10 _____
---	---	---