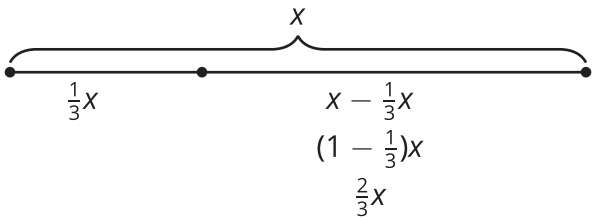
Unit 6, Lesson 5

Working with Fractions

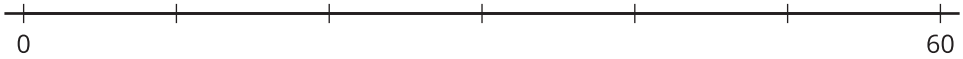
Let's write equivalent expressions.

5.1 Subtracting from 1



5.2 Partway There

Suppose a driver is traveling from one city to another. A diagram is given to help with the first two questions. Create additional diagrams as needed. Be prepared to explain your reasoning.



1. The distance between the cities is 60 miles, and the driver has driven $\frac{1}{3}$ of the way.
   a. How many miles has she driven?
   b. How many miles remain?

2. Later, the driver has driven $\frac{2}{5}$ of the way.
   a. How many miles has she driven?
   b. How many miles remain?

3. On a different trip, the distance between the cities is 300 miles, and she has driven $\frac{1}{6}$ of the way.
   a. How many miles has she driven?
   b. How many miles remain?

4. A trip is x miles long, and the driver has gone $\frac{1}{4}$ of the way. Write an expression to represent how many miles remain in her trip.

5.3 Distribute and Subtract and Multiply!

1. Explain why each pair of expressions is equal.

   a. $(1 - \frac{1}{5}) \cdot 20$ and $\frac{4}{5} \cdot 20$

   b. $24 - \frac{1}{3} \cdot 24$ and $24(1 - \frac{1}{3})$

   c. $64 - \frac{1}{4} \cdot 64$ and $\frac{3}{4} \cdot 64$

2. Match each expression in List A with an equal expression in List B.

List A	List B
$\frac{1}{4} \cdot 80$	$80 - \frac{5}{8} \cdot 80$
$\frac{3}{4} \cdot 80$	20
$80\left(1 - \frac{5}{8}\right)$	$80 \cdot \left(\frac{1}{16}\right)$
$80 - \frac{1}{8} \cdot 80$	$\left(1 - \frac{1}{4}\right) \cdot 80$
$\frac{3}{10} \cdot 80$	56
$\frac{7}{10} \cdot 80$	70
$80\left(\frac{1}{4}\right)^2$	80
$80\left(\frac{1}{2}\right)^3$	$\left(1 - \frac{7}{10}\right) \cdot 80$
$80\left(\frac{3}{4}\right)^0$	10