Chapter 5

Write each rate or ratio as a fraction in lowest terms. Change to the same units when necessary.

1. 14 days to 58 days.
2. 600 miles in 15 hours.
3. $25 for 425 minutes
4. The lecture hall seats 420 people. The classroom seats 60 people. Find the ratio of lecture hall seats to classroom seats.
5. Compare in inches: 8 feet to 56 inches.
6. Compare in nickels: 30 dimes to 16 quarters.
7. Find the best buy on canned corn. You have a coupon for 35¢ off Brand A and a coupon for 50¢ off Brand C.

\[
\begin{align*}
30 \text{ ounces of Brand A for } & \$1.39 \\
48 \text{ ounces of Brand B for } & \$1.49 \\
64 \text{ ounces of Brand C for } & \$2.79
\end{align*}
\]

Determine whether each proportion is true or false.

\[
\begin{align*}
\frac{32}{18} & = \frac{48}{27} \\
0.26 & = 1.3 \\
\frac{1.39}{1.9} & = \frac{48}{27}
\end{align*}
\]

Find the unknown number in each proportion.

\[
\begin{align*}
\frac{99}{55} & = \frac{44}{x} \\
\frac{14}{18} & = \frac{49}{x} \\
\frac{3.6}{x} & = \frac{7}{9.8} \\
\frac{9}{x} & = \frac{15}{1\frac{2}{3}}
\end{align*}
\]

Set up and solve a proportion for each application problem.

14. A car can travel 212 miles on 16 gallons of gas.
   How far can it travel on 25 gallons of gas?
15. A truck rental costs $125.98 for 3 days. How much will it cost to rent a truck for 7 days?

16. 4 out of 7 students take a math class. Out of 490 students, how many take a math class?

17. In a 30-foot pole casts a 12-foot shadow, what is the height of a pole that casts a 15-foot shadow?

18. If 1 inch on a blueprint represents 7 feet of actual length, what is the actual length of a wall that is \( 8 \frac{1}{2} \) inches on the blueprint?

19. Define in your own words a proportion.

20. Is it possible for the ratio of income tax to income to be greater than 1? Explain your answer.