

Lesson 6-4

Example 1 Percents as Fractions

Express each percent as a fraction in simplest form.

a. 84%

$$\begin{aligned} 84\% &= \frac{84}{100} \\ &= \frac{21}{25} \end{aligned}$$

b. 145%

$$\begin{aligned} 145\% &= \frac{145}{100} \\ &= \frac{29}{20} \text{ or } 1 \frac{9}{20} \end{aligned}$$

c. 0.75%

$$\begin{aligned} 0.75\% &= \frac{0.75}{100} \\ &= \frac{0.75}{100} \cdot \frac{100}{100} \\ &= \frac{75}{10000} \text{ or } \frac{3}{400} \end{aligned}$$

d. 24.5%

$$\begin{aligned} 24.5\% &= \frac{24.5}{100} \\ &= \frac{24.5}{100} \cdot \frac{10}{10} \\ &= \frac{245}{1000} \text{ or } \frac{49}{200} \end{aligned}$$

Example 2 Fractions as Percents

Express each fraction as a percent.

a. $\frac{3}{4}$

$$\frac{3}{4} = \frac{75}{100} \text{ or } 75\%$$

b. $\frac{7}{5}$

$$\frac{7}{5} = \frac{140}{100} \text{ or } 140\%$$

Example 3 Percents as Decimals

Express each percent as a decimal.

a. 66%

$$\begin{aligned} 66\% &= 66\% && \text{Divide by 100 and remove the \%} \\ &= 0.66 \end{aligned}$$

b. 3%

$$\begin{aligned} 3\% &= 03\% && \text{Divide by 100 and remove the \%} \\ &= 0.03 \end{aligned}$$

c. 293%

$$\begin{aligned} 293\% &= 293\% && \text{Divide by 100 and remove the \%} \\ &= 2.93 \end{aligned}$$

d. 0.48%

$$\begin{aligned} 0.48\% &= 00.48\% && \text{Divide by 100 and remove the \%} \\ &= 0.0048 \end{aligned}$$

Example 4 Decimals as Percents

Express each decimal as a percent.

a. **0.83**

$$0.83 = 0.83 \quad \text{Multiply by 100 and add the \%}.$$

$$= 83\%$$

b. **0.02**

$$0.02 = 0.02 \quad \text{Multiply by 100 and add the \%}.$$

$$= 2\%$$

c. **3.05**

$$3.05 = 3.05 \quad \text{Multiply by 100 and add the \%}.$$

$$= 305\%$$

d. **0.0045**

$$0.0045 = 0.0045 \quad \text{Multiply by 100 and add the \%}.$$

$$= 0.45\%$$

Example 5 Fractions as Percents

Express each fraction as a percent. Round to the nearest tenth percent if necessary.

a. $\frac{4}{5}$

$$\frac{4}{5} = 0.80$$

$$= 80\%$$

b. $\frac{1}{9}$

$$\frac{1}{9} = 0.11111\dots$$

$$\approx 11.1\%$$

c. $\frac{11}{200}$

$$\frac{11}{200} = 0.055$$

$$= 5.5\%$$

d. $\frac{18}{7}$

$$\frac{18}{7} \approx 2.571428571$$

$$\approx 257.1\%$$

Example 6 Compare Numbers

BEVERAGES In a survey, three-eighths of teenagers said they preferred to drink water with dinner while 35% of teenagers said they preferred to drink pop with dinner. Which of these groups is larger?

Write three-eighths as a percent. Then compare.

$$\frac{3}{8} = 0.375 \text{ or } 37.5\%$$

Since 37.5% is greater than 35%, the group that said they preferred water is larger.