

## Percent

### Objective 1

### Understand the Meaning of Percent

A **percent** represents a part **per hundred**. For example, 3% represents 3 per hundred.

Percentages can also be represented as an equivalent decimal or fraction. For example, 45% is equivalent to 0.45 or  $\frac{45}{100}$ .

### Objective 2

### Learn how to Rewrite a Percentage as Decimal or Fractional Equivalents

To rewrite a **percent as a decimal** equivalent simply move the decimal point **two places to the left**.

Note: When writing whole percents, there is an implied decimal point that is generally not written in. For example, 45% has an implied decimal point just to the right of the 5. If we wanted to write in the decimal point, we would write 45.% which is the same as writing 45%.

To write a percent as a fraction, we first write the percent as a decimal and then write the fractional equivalent.

**Example 1:** Write each percent as a decimal and a fraction. Reduce the fraction if possible.

a)  $4\% = 0.04 = \frac{4}{100} = \frac{1}{25}$

b)  $17\%$

c)  $35\%$

d)  $100\%$

e)  $125\%$

f)  $0.4\%$

g)  $0.03\%$

h)  $1.25\%$

**Objective 3** Learn how to Rewrite a Decimal as a Percent

To write a **decimal as a percent**, simply move the decimal point **two places to the right**.

**Example 2:** Write each decimal as a percent.

a)  $0.5$

b)  $0.31$

c)  $1.49$

d)  $0.007$

e)  $0.375$

f)  $0.0067$

To represent a **fraction as a percent**, first change the fraction to a decimal and then convert the decimal to a percent. In most cases you will have to round off the percent to a specified place value.

For example, supposed we are asked to write the fraction  $\frac{3}{16}$  as a percent rounded to the nearest tenth.

We first convert the fraction to a decimal by dividing the numerator by the denominator.

$$3 \div 16 = 0.1875$$

We **do not** want to round off this result. We are being asked to round off to the nearest tenth only after we have written our percent.

Now we convert 0.1875 to a percent by moving the decimal point two places to the right.

$$18.75\%$$

Finally we round our percent to the nearest tenth.

$$18.8\%$$

**Example 3:** Write each fraction as a percent rounded to the nearest tenth.

a)  $\frac{3}{4} = 0.75 = 75\% = 75.0\%$

b)  $\frac{1}{2} = 0.5 = 50\% = 50.0\%$

c)  $\frac{5}{16}$

d)  $\frac{7}{8}$

e)  $\frac{2}{3}$

f)  $\frac{3}{7}$

g)  $\frac{1}{10}$

h)  $\frac{1}{6}$

Sometimes we need to write numbers as percents. With whole numbers, it may be helpful to write in the decimal point to the right of the number. With mixed numbers, first convert the fractional part to a decimal.

**Example 4:** Write each number as a percent rounded to the nearest hundredth.

a)  $2 = 2. = 2.00\%$

b) 10

c)  $12\frac{1}{16} = 12.0625$

d)  $3\frac{5}{8}$