

11.4 Relate Decimals, Fractions, and Percents

Some percents are not whole numbers. A fractional percent contains a fraction and a decimal percent contains a nonzero number to the right of the decimal point.

You can either use division to find an equivalent decimal or use a proportion to solve the percent.

Example: Write the percent as a decimal.

$$1.) 58.5\% = \frac{58.5}{100} = \frac{585}{1000}$$

$$= \boxed{0.585}$$

$$2.) 30.1\% = \frac{30.1}{100} = \frac{301}{1000}$$

$$= \boxed{0.301}$$

$$3.) 3.17\% = \frac{3.17}{100} = \frac{317}{10000}$$

$$= \boxed{0.0317}$$

$$4.) 59.99\% = \frac{59.99}{100} = \frac{5999}{10000}$$

$$= \boxed{0.5999}$$

Example: Write the fraction as a fractional percent.

5.) $\frac{1}{8} = \frac{r}{100}$
 $\frac{100}{8} = \frac{125}{1}$

$r = 12.5\%$

6.) $\frac{9}{24} = \frac{37.5\%}{100}$
 $\frac{100}{24} \overline{) 9.000}$
 $\underline{72}$
 180
 $\underline{168}$
 120
 $\underline{120}$
 0

7.) $\frac{5}{16} = \frac{r}{100}$
 $\frac{500}{16} = \frac{31.25}{1}$

$r = 31.25\%$

8.) $\frac{7}{40} = \frac{17.5\%}{100}$
 $\frac{100}{40} \overline{) 7.000}$
 $\underline{40}$
 300
 $\underline{280}$
 200
 $\underline{200}$
 0

$8 \overline{) 100.0}$
 $\underline{80}$
 20
 $\underline{16}$
 40
 $\underline{40}$
 0

$16 \overline{) 500.00}$
 $\underline{480}$
 20
 $\underline{16}$
 40
 $\underline{32}$
 80
 $\underline{80}$
 0

Example: Write the fraction as a decimal and as a percent.

9.) $\frac{5}{8}$
 0.625
 62.5%

$8 \overline{) 5.000}$
 $\underline{48}$
 20
 $\underline{16}$
 40
 $\underline{40}$
 0

10.) $\frac{3}{16}$
 0.1875
 18.75%

$16 \overline{) 3.0000}$
 $\underline{16}$
 1400
 $\underline{1280}$
 1200
 $\underline{1120}$
 80
 $\underline{80}$
 0

11.) $\frac{9}{24}$
 0.375
 37.5%

$24 \overline{) 9.000}$
 $\underline{72}$
 180
 $\underline{168}$
 120
 $\underline{120}$
 0

12.) $\frac{17}{32}$
 0.53125
 53.125%

$32 \overline{) 17.00000}$
 $\underline{160}$
 100
 $\underline{96}$
 40
 $\underline{32}$
 80
 $\underline{64}$
 160
 $\underline{160}$
 0