

Key

Review: Decimals and Percent

A percent is a fraction out of 100. For example a mark of 86% on a test is the equivalent of 86 out of 100.

To change a percent into a decimal, simply divide the number by 100.

Example: What is 67% as a decimal?

$$67 \div 100 = 0.67$$

67

move decimal LEFT
when dividing

To change a decimal into a percent, multiply the decimal by 100

Example what is 0.76 as a percent?

$$0.76 \times 100 = 76\%$$

0.76

move decimal RIGHT
when multiplying

To change a fraction to a decimal or percent, divide the numerator by the denominator and multiply by 100.

Example What percent is $\frac{3}{5}$

$$3 \div 5 = 0.6 \leftarrow \text{decimal}$$

$$0.6 \times 100 = 60\%$$

HINT: When multiplying by 100 move the decimal two places to the right. When dividing by 100 move the decimal two places to the left.

Practice 1:

1. Write each percent as a decimal.

a. 25% 0.25

b. 7% 0.07

c. 15% 0.15

d. 1.5% 0.015

e. 47% 0.47

f. 12.5% 0.125

g. 150% 1.5

h. 0.2% 0.002

i. 200% 2

2. Write each decimal as a percent

a. 0.65 65%

b. 0.04 4%

c. 0.12 12%

d. 0.055 5.5%

e. 0.1 10%

f. 0.002 0.2%

3. Write each fraction as a decimal and percent.

a. $\frac{2}{5}$ 0.4 = 40%

b. $\frac{5}{8}$ 0.625 = 62.5%

c. $\frac{1}{3}$ 0.3 = 33%

d. $\frac{4}{3}$ 1.3 = 133%

e. $\frac{5}{7}$ 0.71 = 71%

f. $\frac{3}{9}$ 0.3 = 33%

Calculating percentages. To find a percent of a number either convert the percent to a decimal and multiply or use proportional reasoning

Example: Find 20% of 45

Solution A – Convert 20% to a decimal and multiply

$$20\% \div 100 = 0.2$$
$$0.2 \times 45 = \boxed{9}$$

Solution B – Set up the proportion and solve with cross multiply & divide

$$\frac{20}{100} = \frac{x}{45}$$
$$20 \times 45 \div 100 = \boxed{9}$$

Practice 2: Find the percent of each number (round to one decimal place where necessary)

a. 15% of 300 $\boxed{45}$

b. 45% of 1500 $\boxed{675}$

c. 140% of 170 $\boxed{238}$

d. 0.3% 175 $\boxed{0.525}$

e. 80% of 50 $\boxed{40}$

f. 10% of 65 $\boxed{6.5}$

g. 200% of 50 $\boxed{100}$

h. 25% of 700 $\boxed{175}$