

Pre-Algebra

Essential Questions: What is a percent? How do we find the percent of a number?

Do Now: Match the phrase with the percent.

PHRASE	PERCENT
1. 5 cubic inches of water filled in a 20 cubic inch bottle $\frac{5}{20} = 0.25$	75% (8)
2. 15 out of 50 play drums in a band $\frac{15}{50} = 0.3$	300% (3)
3. Instead of the \$1200 expected to be raised, \$3600 was collected for the school's fundraiser $\frac{3600}{1200} = 3$	1% (6)
4. 35 out of 35 questions were answered correctly $\frac{35}{35} = 1$	25% (1)
5. The chance of landing on heads with a flip of a coin $\frac{1}{2} = 0.5$	10% (7)
6. One penny out of one dollar $\frac{1}{100} = .01$	30% (2)
7. \$20 out of \$200 earned is put in savings $\frac{20}{200} = 0.1$	100% (4)
8. There are 12 girls in a class of 16 students $\frac{12}{16} = 0.75$	50% (5)

A Percent compares a number to 100. It's a ratio that compares a part to a whole using 100.

Write each percent as a simplified ratio.

a. 22%

$$\boxed{\frac{11}{50}}$$

b. 6%

$$\boxed{\frac{3}{50}}$$

c. 189%

$$\boxed{\frac{189}{100}}$$

Write each percent as a decimal.

a. 59%

$$\boxed{0.59}$$

b. $\frac{3}{4}\%$ 0.75%

$$\boxed{.0075}$$

c. 139%

$$\boxed{1.39}$$

Equivalent Forms of Numbers - complete the table below

Fraction	Decimal	Percent
$\frac{1}{3}$	$0.\bar{3}$	$33.\bar{3}\%$
$1\frac{1}{8}$	1.125	112.5%
$\frac{1}{250}$.004	0.4%

Finding the Percent of a Number

Find 32% of 62

1st Method - Multiply by Fraction/Decimal

$$(.32)(62)$$

$$\boxed{19.84}$$

2nd Method - Percent Proportion

$$\frac{\text{is}}{\text{of}} = \frac{\%}{100}$$

$$\frac{x}{62} = \frac{32}{100}$$

$$\frac{100x}{100} = \frac{1984}{100}$$

$$\boxed{x = 19.84}$$

Examples:

1. Find 7% of 30

$$(.07)(30)$$

$$\boxed{2.1}$$

2. What is $15\frac{1}{2}\%$ of 160?

15.5%

$$(.155)(160)$$

$$\boxed{24.8}$$

3. Find 120% of 4.8

$$(1.20)(4.8)$$

$$\boxed{5.76}$$

4. What is $66\frac{2}{3}\%$ of 399?

↓

66.6666...%

$$(.666666\dots)(399)$$

$$\boxed{266}$$

use
at least
10 6's