Name _____ Class _____ Date _____

Lesson 6-1

Percents, Fractions, and Decimals

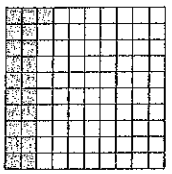
Lesson Objective	Common Core Standard
To convert between fractions, decimals, and percents	Expressions and Equations: 7.EE.3

Key Concepts

Fractions, Decimals, and Percents

You can write 21 out of 100 as a fraction, a decimal, or a percent.

Fraction	Decimal	Percent
$\frac{21}{100}$	0.21	21%



Examples

1 Writing Decimals as Percents Write 0.101, .008, and 2.012 as percents.

$0.101 = \frac{101}{1000} = \frac{10.1}{100} = 10.1\%$

$0.008 = \frac{8}{1000} = \frac{0.8}{100} = 0.8\%$

$2.012 = \frac{2012}{1000} = \frac{0.2012}{100} = 0.2012\%$

← Write as a fraction.

← Write an equivalent fraction with 100 in the denominator.

← Write as a percent.

2 Writing Percents as Decimals Write 6.4%, .07%, and 3250% as decimals.

$6.4\% = \frac{6.4}{100} = 0.064$

$0.07\% = \frac{0.07}{100} = 0.0007$

$3250\% = \frac{3250}{100} = 32.5$

← Write the percent as a fraction.

← Divide.

6.4 0.07 3250

Quick Check

1. Write 0.607, 0.005, and 9.283 as percents.

60.7% 0.5% 928.3%

0.607 0.005 9.283

2. Write each percent as a decimal.

a. 3500% 35 b. 12.5% 0.125 c. 0.78% 0.0078

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Examples

3 Writing Percents as Fractions Write each percent as a fraction in simplest form.

a. 12%

$12\% = \frac{12}{\boxed{100}}$ ← Write as a fraction with a denominator of 100 →

$= \frac{12 \div \boxed{4}}{100 \div \boxed{4}}$ ← Divide the numerator and the denominator by the GCF. →

$= \frac{\boxed{3}}{\boxed{25}}$ ← Simplify the fraction. →

b. 45%

$45\% = \frac{45}{\boxed{100}}$

$= \frac{45 \div \boxed{5}}{100 \div \boxed{5}}$

$= \frac{\boxed{9}}{\boxed{20}}$

4 Ordering Rational Numbers Order $\frac{3}{5}$, $\frac{2}{10}$, 0.645, and 13% from least to greatest. Write all numbers as decimals. Then graph each number on a number line.

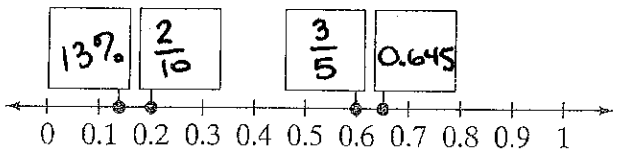
$\frac{3}{5} = \boxed{0.6}$ ← Divide the 3 by the 5.

$\frac{2}{10} = \boxed{0.2}$ ← Divide the 2 by the 10.

0.645 0.645 ← This number is already in decimal form.

13% = 0.13 ← Move the decimal point 2 places to the left.

$5\overline{)3.0}$ → 0.6, -30, 0



Quick Check

3. An elephant eats about 6% of its body weight in vegetation every day. Write this as a fraction in simplest form.

$6\% = \frac{6}{100} \div 2 = \frac{3}{50}$

4. Order from least to greatest.

a. $\frac{3}{10}$, 0.74, 29%, $\frac{11}{25}$

$\frac{3}{10} = 0.3$, 0.74, $29\% = 0.29$, $\frac{11}{25} = 0.44$

29%, $\frac{3}{10}$, $\frac{11}{25}$, 0.74

b. 15%, $\frac{7}{20}$, 0.08, 500%

15%, 0.08, $\frac{7}{20}$, 500%

15% = 0.15, $\frac{7}{20} = 0.35$, 0.08, 500% = 5.

$\frac{7 \cdot 5}{20 \cdot 5} = \frac{35}{100}$

$\frac{11 \cdot 4}{25 \cdot 4} = \frac{44}{100}$

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