

Fraction Concepts

Multiply or divide the numerator and denominator of a fraction by the same (nonzero) number to write an equivalent fraction.

Example 1: Write two fractions equivalent to

$$\frac{1 \cdot 2}{2 \cdot 2} = \frac{2}{4}$$

$$\frac{6 \div 2}{8 \div 2} = \frac{3}{4}$$

$$\frac{1 \cdot 4}{2 \cdot 4} = \frac{4}{8}$$

$$\frac{6 \cdot 2}{8 \cdot 2} = \frac{12}{16}$$

To write a fraction in simplest form, divide the numerator and denominator by their greatest common factor.

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Example 2: Write the fraction in simplest form.

$$\frac{16 \div 4}{20 \div 4} = \frac{4}{5}$$

$$\frac{30}{70} = \frac{3}{7}$$

$$\frac{50}{100} = \frac{1}{2}$$

Two numbers are reciprocals if their product is 1 (flip the numbers in the numerator and denominator).

Example 3: Find the reciprocal of the number.

$$\frac{5}{6} = \frac{6}{5}$$

$$-\frac{3}{5} = -\frac{5}{3}$$

Fractions and Decimals

Divide to write a fraction as a decimal. If the remainder is ever zero, the result is a terminating decimal. If the quotient has a digit or group of digits that repeats, the result is a repeating decimal.

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Example 4: Write the fraction as a decimal.

$$\frac{3}{4} = .75 \quad \frac{2}{3} = .\overline{6}$$

terminating repeating

Example 5: Write the decimal as a fraction in simplest form.

$$.4 = \frac{4 \div 2}{10 \div 2} = \frac{2}{5}$$

$$.75 = \frac{75}{100} = \frac{3}{4}$$

$$\begin{aligned} 10 \cdot .8\overline{3} &= X \cdot 10 \\ 8.\overline{3} &= 10X \end{aligned}$$

$$10X - X = 8.\overline{3} - .8\overline{3}$$

$$\begin{array}{r} 8.\overline{3333} \\ - .8\overline{333} \\ \hline 7.5 \end{array}$$

$$\frac{9X}{9} = \frac{7.5}{9}$$

$$X = \frac{7.5 \cdot 10}{9 \cdot 10}$$

$$X = \frac{75}{90} = \frac{5}{6}$$

Name

Fractions/Decimals

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Notes More Fractions