1.12 Fractions, Decimals, Percent
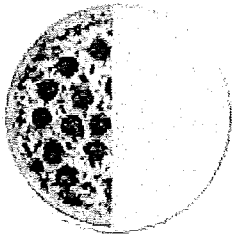
Decimals, fractions and percents are just different ways of showing the same value.

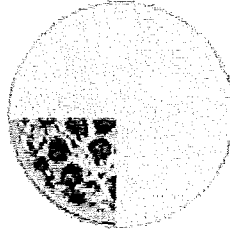A half can be written as:

A fraction: _____1/2_____

A decimal: _____0.50_____

A percent: _____50%_____

A quarter can be written as:

A fraction: _____1/4_____

A decimal: _____0.25_____

A percent: _____25%_____

Conversions:

Fraction to a Decimal:

Divide   (long division)

Decimal to Fraction:

1. Write the decimal ÷ 1

2. multiply top and bottom by 10, 100, 1000, ... (depending on decimal)
   $0.1 = \frac{1}{10}$, $0.12 = \frac{12}{100}$

3. Reduce to lowest terms (divide by common factor)

4. Represent as a mixed fraction if numerator > denominator

Convert 0.75 to a fraction $= \frac{0.75}{1}$

$\frac{75}{100} \begin{array}{c} \div 25 \\ \div 25 \end{array}$

$= \frac{3}{4}$

Fraction to percent

. divide

2. multiply by 100

Convert $\frac{3}{8}$ to a percent

$\frac{3}{8} = 0.375$

$0.375 \times 100 = 37.5\%$

Percent to a Fraction

1. Convert to a decimal (divide by 100)

2. Write the decimal ÷ by 1

3. multiply top and bottom by 10, 100, 1000, ...

4. Reduce (simplify) to lowest terms

5. Represent as a mixed fraction where necessary.

Convert 80% to a fraction

$80\% = 0.80 = \frac{0.80}{1}$

$= \frac{80}{100}$

$= \frac{4}{5}$

From Decimal to Percent

Multiply by 100, and add a "%" sign.

0.125   0.12.5   12.5%

The easiest way to multiply by 100 is to move the decimal point 2 places to the right:

From Percent to Decimal

Divide by 100, and remove the "%" sign.

75%   0.75   0.75

The easiest way to divide by 100 is to **move the decimal point 2 places to the left:**