

decimal
point
4 6, 5 0 2 . 7 3 8

ten-thousands

thousands

hundreds

tens

ones

tenths

hundredths

thousandths

0.0738

.62

.014

2.1 -6.0002

In the previous six examples, we went from decimals to words. Now we will go from words to decimals, and to fractions as well.

two hundred six ten-thousandths

fraction

decimal

three hundred five and seven hundredths

fraction

decimal

Now we will focus on converting from fractions to decimals; this helps to reveal what decimals are, which is, fractions with “power of ten” denominators.

tenths	hundredths	thousandths	ten-thousandths
$\frac{1}{10} = .1$	$\frac{1}{100} = .01$	$\frac{1}{1000} = .001$	$\frac{1}{10,000} = .0001$
$\frac{4}{10} = .4$	$\frac{8}{100} = .08$	$\frac{5}{1000} = .005$	$\frac{7}{10,000} = .0007$
	$\frac{57}{100} =$	$\frac{83}{1000} =$	$\frac{19}{10,000} =$
		$\frac{732}{1000} =$	$\frac{243}{10,000} =$
			$\frac{6,402}{10,000} =$

Fractions without “powers of ten” denominators can be written as decimals by doing what the fraction says- divide.

So $\frac{5}{8}$ is really a shorthand way of writing $5 \div 8$, which we calculate as:

$$8 \overline{) 5}$$

Thus, converting $\frac{5}{8}$ to a decimal yields 0.625.

So $\frac{3}{4}$ is really a shorthand way of writing $3 \div 4$, which we calculate as:

$$4 \overline{) 3}$$

Thus, converting $\frac{3}{4}$ to a decimal yields 0.75.

To convert decimal to fraction, rewrite it (*without the decimal point*) over the appropriate power of ten, reduce if possible.

.75

.625

.0013

Conversions with Mixed Numbers:

Fraction to Decimal: $3\frac{7}{100}$

Fraction to Decimal: $-9\frac{1}{4}$

Decimal to Fraction: -56.003

Decimal to Fraction: 27.8