

2-1 Decimals to Fractions

Fractions to Decimals

Rational Numbers: Any numbers that can be written as fractions.

Example:

5, 3.25, 0.0275, 26.82

Decimal to Fraction:

1. Identify the place value of the LAST decimal place. 0.45
2. Write decimal as a fraction using the place value as the denominator. $\frac{45}{100}$
3. Simplify. (Cake Method)

$$\begin{array}{r|l} 5 & 45 \quad 100 \\ & 9 \quad / \quad 20 \end{array} \qquad \frac{9}{20}$$

If a whole number 1.64 then:

$$\left(\frac{16}{25} \right)$$

0.64 $\frac{64}{100}$

$$\begin{array}{r|l} 2 & 64 \quad 100 \\ 2 & 32 \quad 50 \\ & 16 \quad 25 \end{array}$$

Fractions and Mixed Numbers to Decimals

1. Check see if denominator is a factor of 10, 100, or 1000.
2. If so, write as equivalent fractions with these denominators.

$$\text{Ex: } \frac{2}{5} \xrightarrow{\times 2} \frac{4}{10} = 0.4$$

$$\frac{3}{4} \xrightarrow{\times 25} \frac{75}{100} = 0.75$$

May scale to make factor:

$$\frac{9}{12} = \frac{3 \overline{) 9} \ 12}{\underline{3} \ 4}$$

$$\frac{3}{4} \xrightarrow{\times 25} \frac{75}{100} = 0.75$$

If not a factor:

denominator | numerator (top #)

$\frac{n}{d} = \frac{\text{notre}}{\text{dame}}$

$$\frac{7}{8}$$

$$\begin{array}{r} 0.875 \\ 8 \overline{) 7.000} \\ \underline{-64} \downarrow \\ 60 \downarrow \\ \underline{-56} \downarrow \\ 40 \\ \underline{-40} \\ 0 \end{array}$$

$$\frac{7}{8} = 0.875$$