

Lesson 2.8 Converting Rational Numbers Using Division

Rational numbers can be converted into decimals using long division. All fractions will be turned into decimals that either terminate or repeat.

Terminating

$$\frac{1}{8} \quad \begin{array}{r} 0.1250 \\ 8 \overline{)1.0000} \end{array}$$

Repeating

$$\frac{1}{3} \quad \begin{array}{r} 0.3333 \\ 3 \overline{)1.0000} \end{array}$$

Use long division to change each rational number into a decimal. Then, circle to indicate if each is terminating (T) or repeating (R).

a

1. $\frac{1}{4} = \underline{\hspace{1cm}}$ T or R

b

$2\frac{3}{5} = \underline{\hspace{1cm}}$ T or R

c

$\frac{5}{8} = \underline{\hspace{1cm}}$ T or R

2. $\frac{3}{5} = \underline{\hspace{1cm}}$ T or R

$\frac{7}{200} = \underline{\hspace{1cm}}$ T or R

$\frac{8}{33} = \underline{\hspace{1cm}}$ T or R

3. $\frac{6}{11} = \underline{\hspace{1cm}}$ T or R

$\frac{7}{50} = \underline{\hspace{1cm}}$ T or R

$4\frac{17}{125} = \underline{\hspace{1cm}}$ T or R

4. $\frac{7}{20} = \underline{\hspace{1cm}}$ T or R

$\frac{1}{111} = \underline{\hspace{1cm}}$ T or R

$\frac{1}{125} = \underline{\hspace{1cm}}$ T or R