

Lesson 4.1 Terminating and Repeating Decimals

Objective: To write fractions as terminating or repeating decimals and write decimals as fractions.

Write fractions as Decimals:

Word	Fraction	Decimal
Seven tenths	$\frac{7}{10}$	0.7
Nineteen hundredths	$\frac{19}{100}$	0.19
one-hundred five thousandths	$\frac{105}{1000}$	0.105

Ex. Write each fraction or mixed number as a decimal.

$$\textcircled{1} \frac{74}{100} = \boxed{0.74}$$

$$\textcircled{2} \frac{7}{20} = \frac{35}{100} = \boxed{0.35}$$

$$\textcircled{3} 5\frac{3}{4} = \boxed{5.75}$$

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

*Can make an equivalent fraction to get denominator to a power of 10. (10, 100, 1000) *

④ Write $\frac{3}{8}$ as a decimal.

* top # divided by bottom # *

$$8 \overline{) 3.000} = \boxed{0.375}$$

$$\begin{array}{r} 0.375 \\ 8 \overline{) 3.000} \\ \underline{-0} \\ 30 \\ \underline{-24} \\ 60 \\ \underline{-56} \\ 40 \end{array}$$

⑤ Write $\frac{7}{9}$ as a decimal.

* Divide top#
by bottom #*

$$9 \overline{) 7.000} = \boxed{0.\overline{7}}$$

Handwritten long division showing the conversion of 7/9 to a decimal. The quotient is 0.777, with a bar over the final 7. The remainder is 7 after each step.