

Terminating Decimal: STOP somewhere

0.5

0.2

0.25

0.1

0.125

0.765379

Repeating Decimal: Has some pattern that never stops.

0.333..... = $0.\overline{3}$ 0.1233333... = $0.12\overline{3}$ 0.145827145827145827..... = $0.\overline{145827}$

Ex. 1: Write each repeating decimal in correct bar notation.

A. 0.1111...

B. 0.61111...

C. 0.616161...

0. $\overline{1}$ 0.6 $\overline{1}$ 0. $\overline{61}$

Ex. 2: Complete the table below. Write fractions in simplest form.

| Decimal | Words | Fraction |
|---------------------|------------------------------|--|
| 0. $\overline{7}$ | seven tenths | $\frac{7}{10}$ |
| 0.1 $\overline{9}$ | nineteen hundredths | $\frac{19}{100}$ |
| 0.10 $\overline{5}$ | one hundred five thousandths | $\frac{105}{1000} \div 5 = \frac{21}{200}$ |

Notes 2-2

Int 1

Terminating/Repeating Decimals

Unit 2

Write each fraction or mixed number as a decimal.

Ex. 3: $\frac{74}{100}$

0.74

hundredths

Ex. 4: $\frac{7.5}{20 \cdot 5} = \frac{35}{100}$

0.35

Ex. 5: $5\frac{3}{4}$

5.75

Ex. 6: $\frac{3}{10}$

0.3

Ex. 7: $\frac{3 \cdot 4}{25 \cdot 4} = \frac{12}{100}$

0.12

Ex. 8: $-6\frac{1}{2}$

-6.5

Ex. 9: Write $\frac{3}{8}$ as a decimal. *top goes inside!*

$3 \div 8$

$$\begin{array}{r}
 0.375 \\
 8 \overline{) 3.0000} \\
 \underline{-24} \\
 60 \\
 \underline{-56} \\
 40 \\
 \underline{-40} \\
 0
 \end{array}$$

Ex. 10: Write $\frac{1}{40}$ as a decimal. *inside*

$$\begin{array}{r}
 0.025 \\
 40 \overline{) 1.00000} \\
 \underline{-80} \\
 200 \\
 \underline{-200} \\
 0
 \end{array}$$

Write each fraction or mixed number as a decimal. Use bar notation if needed.

Ex. 11: $\frac{7}{9} = 0.\overline{7}$

Trick! for $\overline{9}$
the top # repeats

Ex. 12: $\frac{7}{8}$

$-0.\overline{875}$

8 $\overline{)7.0000}$

$\underline{-64}$ 60

$\underline{-56}$ 40

$\underline{40}$ 0

Ex. 13: $-\frac{3}{11} = -0.\overline{27}$

Trick for $\overline{11}$
top # • by 9 repeats!

Ex. 14: $8\frac{1}{3} = 8.\overline{3}$

↑
memorize!

Name:

Period:

Notes 2-2

Int 1

Terminating/Repeating Decimals

Unit 2

Write the following decimals as a fraction (improper or mixed number) in simplest form.

Ex. 15: 3.4

$$3 \frac{4 \div 2}{10 \div 2}$$

$$\boxed{3 \frac{2}{5}}$$

Ex. 16: 5.05

$$5 \frac{5 \div 5}{100 \div 5}$$

$$\boxed{5 \frac{1}{20}}$$

Ex. 17: -0.45

$$-\frac{45 \div 5}{100 \div 5} \quad \boxed{-\frac{9}{20}}$$