Name: Period:

Notes 2-2

Int 1 **Terminating/Repeating Decimals** **Unit 2**

Terminating Decimal:

0.582 .5 1.12345678901234

3.7934 5.73 STOP somewhere.

Repeating Decimal: Has a pattern that repeats after the decimal point

6.111111.... 0.123123123123...

0.3333.... $\frac{3}{9}$ $\frac{1}{3}$ 0.5721111111111.... FOREVER

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

A. 0.1111... **B.** 0.61111... **C.** 0.616161...

$0.\overline{1}$ ~~$0.\overline{111}$~~ $0.6\overline{1}$ ~~$0.6\overline{11}$~~ $0.\overline{61}$

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

Decimal	Words	Fraction
underline the last # 0.7	Seven tenths	$\frac{7}{10}$
0.19	nineteen hundredths	$\frac{19}{100}$
0.105	one hundred & five thousandths	$\frac{105 \div 5}{1{,}000 \div 5} = \frac{21}{200}$

must simplify if possible!

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Int 1 **Terminating/Repeating Decimals** **Unit 2**

Write each fraction or mixed number as a decimal.

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

0.74

Ex. 4: $\frac{7 \cdot 5}{20 \cdot 5} = \frac{35}{100}$

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.

inside → $\frac{3}{8} = 3 \div 8$

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

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

$= -0.025$

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

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Int 1 **Terminating/Repeating Decimals** **Unit 2**

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

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

$$
\begin{array}{r}
0.7777 \\
9\overline{)\,7.0000} \\
-63 \\
\hline
70 \\
-63 \\
\hline
70 \\
-63 \\
\hline
70 \\
-63 \\
\hline
7
\end{array}
$$

Ex. 12: $-\frac{7}{8} = -0.875$

$$
\begin{array}{r}
0.875 \\
8\overline{)\,7.00000} \\
-64 \\
\hline
60 \\
-56 \\
\hline
40 \\
-40 \\
\hline
0
\end{array}
$$

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

$$
\begin{array}{r}
0.2727 \\
11\overline{)\,3.0000} \\
-22 \\
\hline
80 \\
-77 \\
\hline
30 \\
-22 \\
\hline
80 \\
-77 \\
\hline
3
\end{array}
$$

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

$8.\overline{3}$

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Notes 2-2

Int 1 **Terminating/Repeating Decimals** **Unit 2**

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

WHOLE $\frac{1}{2}$

BIG Small

Ex. 15: 3.4

Ex. 16: 5.05

$5\frac{5}{100}$ ÷5 ÷5

$5\frac{1}{20}$

Ex. 17: -0.45

$-\frac{45}{100}$ ÷5 ÷5

$-\frac{9}{20}$

Ex. 18: Jamie had two hits on her first nine times at bat.

A. What fraction represents how many hits Jamie got? $\frac{2}{9}$

B. To find Jamie's batting average, turn that fraction into a decimal.

$0.\overline{2}$

equal

Ex. 19: Write a fraction that is equivalent to a repeating decimal between 0.25 and 0.50

same

$0.33333\ldots$ $\frac{1}{3}$

$0.\overline{26} \longrightarrow \frac{26}{99}$

$0.44444\ldots$ $\frac{4}{9}$

$0.\overline{456} \longrightarrow \frac{456}{999}$