Notes 4-1

Int 2 | **Rational Numbers** | **Unit 4**

Familiar Fractions:

Fourths				
Fractions	$\frac{1}{4}$	$\frac{2}{4}=\frac{1}{2}$	$\frac{3}{4}$	$\frac{4}{4}$
Decimals	0.25	0.5	0.75	1

Thirds			
Fractions	$\frac{1}{3}$	$\frac{2}{3}$	$\frac{3}{3}$
Decimals	$0.\overline{3}$	$0.\overline{6}$	1

Fifths					
Fractions	$\frac{1}{5}$	$\frac{2}{5}$	$\frac{3}{5}$	$\frac{4}{5}$	$\frac{5}{5}$
Decimals	0.2	0.4	0.6	0.8	1

Ninths									
Fractions	$\frac{1}{9}$	$\frac{2}{9}$	$\frac{3}{9}=\frac{1}{3}$	$\frac{4}{9}$	$\frac{5}{9}$	$\frac{6}{9}=\frac{2}{3}$	$\frac{7}{9}$	$\frac{8}{9}$	$\frac{9}{9}$
Decimals	$0.\overline{1}$	$0.\overline{2}$	$0.\overline{3}$	$0.\overline{4}$	$0.\overline{5}$	$0.\overline{6}$	$0.\overline{7}$	$0.\overline{8}$	1

$$\begin{array}{r} 0.11 \\ 9\overline{)1.00} \\ -9\downarrow \\ \hline 10 \\ -9 \\ \hline 1 \end{array}$$

$$\begin{array}{r} 0.22 \\ 9\overline{)2.00} \\ -18\downarrow \\ \hline 20 \\ -18 \\ \hline 2 \end{array}$$

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Int 2 | **Rational Numbers** | **Unit 4**

Vocabulary – Terminating Decimals:

decimal that doesn't repeat
decimal that stops
you can see the end of the decimal

Vocabulary – Repeating Decimals:

decimal with a bar over a number where numbers repeat forever

Write each fraction or mixed number as a decimal.

Ex. 1: $\frac{3}{16}$ 0.1875

Ex. 2: $-3\frac{2}{11} = -3.\overline{18}$

less than 1 if top is smaller than bottom.

Whole #. Fraction

Ex. 3: In a recent season, NASCAR driver Jimmie Johnson won 6 of the 36 total races held. To the nearest thousandth, find the part of races he won.

$\frac{6}{36} = 0.16\overline{6}$

0.167

Round

① Underline the place value given
② Look at the neighbor to the right →
③ Change or stays ④ Only change the underline

Notes 4-1

Int 2 **Rational Numbers** **Unit 4**

Place Value and Decimals:

thousands	hundreds	tens	ones		tenths	hundredths	thousandths	ten-thousandths
			0 -3	●	4 6	5 4		
			0	.	7			

Write each decimal as a fraction in simplest form.

Ex. 4: 0.45 $\frac{45 \div 5}{100 \div 5} = \frac{9}{20}$

Ex. 6: 0.7 $\frac{7}{10}$

Ex. 5: −3.64 $-3\frac{64 \div 4}{100 \div 4}$ $\frac{16}{25}$ $-3\frac{16}{25}$

Ex. 7: $0.\overline{5}$ $\frac{5}{9}$

If one digit repeats → denom is 9

Steps for converting a decimal to a fraction:

1. Decide on the last place value of our #.
2. Use that place value as denominator (bottom)
3. Use the #s AFTER the decimal as numerator (top)
4. Numbers in FRONT of decimal are whole #.
5. Simplify

Notes 4-1

Int 2 **Rational Numbers** **Unit 4**

Repeating Decimals:

Write each fraction as a decimal WITHOUT a calculator.

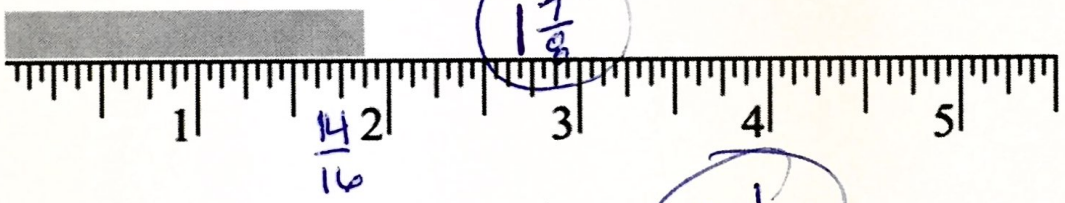
Ex. 8: $\frac{3}{9} = 0.\overline{3}$ **Ex. 9:** $\frac{16}{99}$ $0.\overline{16}$ **Ex. 10:** $\frac{131}{999}$ $0.\overline{131}$

If 2 digits repeat → denom is 99

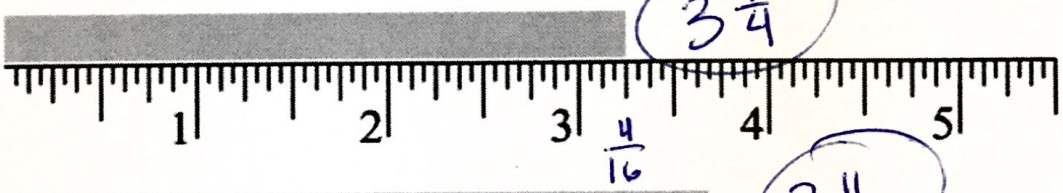
If 3 digits repeat → denom is 999

Reading a Ruler in Inches: (16 pieces)

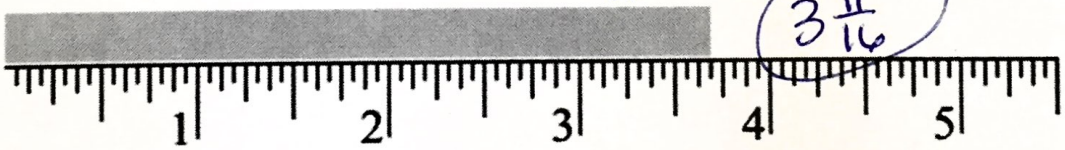
Ex. 11:



Ex. 12:

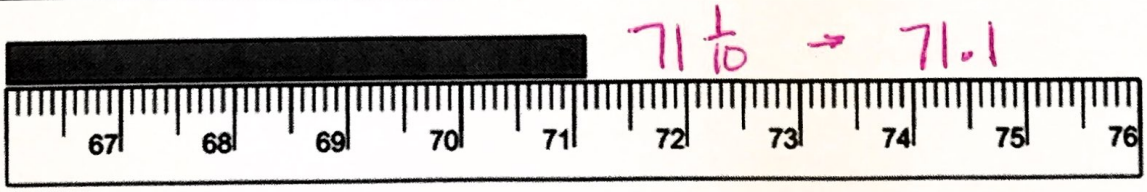


Ex. 13:



Reading a Ruler in Centimeters: (10 pieces)

Ex. 14:



Ex. 15: