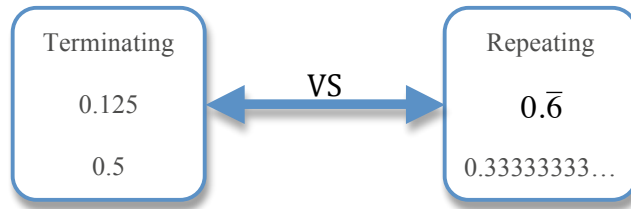


1.2 Converting Terminating Decimals into Fractions



Remember how to convert a fraction into a decimal?

Example 1

Example 2

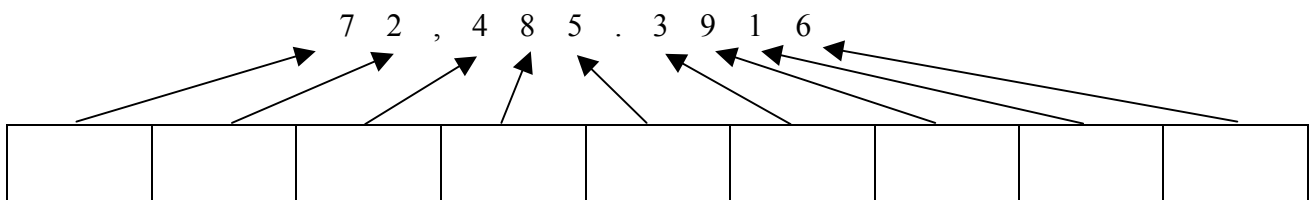
Example

3

$\frac{3}{4} = 0.75$ $\begin{array}{r} 0.75 \\ 4 \overline{) 3.00} \\ \underline{-28} \\ 20 \\ \underline{-20} \\ 0 \end{array}$	$\frac{2}{11} = 0.1818...$ $\begin{array}{r} 0.1818... \\ 11 \overline{) 2.0000} \\ \underline{-11} \\ 90 \\ \underline{-88} \\ 20 \\ \underline{-11} \\ 90 \\ \underline{-88} \\ 2 \end{array}$	$\frac{11}{8} = 1.375$ $\begin{array}{r} 1.375 \\ 8 \overline{) 11.000} \\ \underline{-8} \\ 30 \\ \underline{-24} \\ 60 \\ \underline{-56} \\ 40 \\ \underline{-40} \\ 0 \end{array}$
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Remember place value?

Let's review the place values of the following number:



Fill in the boxes above using the terms below.

tenths	ten-thousands	hundredths	tens	ten-thousandths
hundreds	thousandths	ones	thousands	

Class Notes - Write each decimal as a fraction or mixed number in simplest form.

LP#1 0.6	0.25	0.5271	0.456
LP#2 2.8	-3.12	6.329	-1.75

Class Notes - Place a $<$, $>$, or $=$ in between the expressions to make the sentence true.

LP#3 (convert decimal to fraction) $\frac{1}{10}$ 0.12	$\frac{2}{5}$ 0.7	$-2\frac{3}{10}$ -2.3
LP#4 (convert fraction to decimal) $\frac{3}{5}$ 0.395	$\frac{1}{4}$ 0.1	0.6 $\frac{3}{20}$

Review - Convert the following decimals into fractions.

R#1 0.7	-0.15	0.032	0.1021	4.31
R#2 1.4	0.30	0.64	-2.042	0.05
R#3 -0.125	0.0121	-1.45	0.10005	9.77

Homework Problems

Convert the following decimals into fractions.

- 1) 0.5 2) 0.34 3) 0.743 4) 5.1251 5) 0.635
 6) 0.87 7) 0.2 8) 0.6623 9) 0.007 10) 0.921
 11) 2.941 12) 0.321 13) 0.9 14) 0.91 15) 0.5232
 16) 0.007 17) 0.221 18) 0.13 19) 0.3 20) 0.0012
 21) 0.06 22) 4.0003 23) 0.0302 24) 0.054 25) 0.1
 26) 0.93 27) 52.25 28) 9.032 29) 0.00001 30) 0.932

State whether the following statements are true or false and justify your answer.

- 31) $\frac{3}{10} = 0.03$ 32) $\frac{345}{1000} = 0.345$ 33) $\frac{215}{10} = 2.15$ 34) $\frac{4161}{1000} = 4.161$
 35) $\frac{1}{5} = 0.2$ 36) $\frac{3}{4} = 0.8$ 37) $\frac{7}{20} = 0.35$ 38) $\frac{320}{10} = 3.2$

Synthesis

- 39) Is there a fraction that only contains whole numbers in its numerator and denominator that is equivalent to $\sqrt{23}$? Explain your answer.
 40) Is there a fraction that only contains whole numbers in its numerator and denominator that is equivalent to $\sqrt{49}$? Explain your answer.
 41) Create a fraction with an irrational denominator. Express it as a decimal rounded to the nearest tenth.
 42) Create a fraction with an irrational numerator. Express it as a decimal rounded to the nearest hundredth.