

Rational Numbers (5-1)

rational number	Decode rational number
Definition any # that can be written as a fraction	Example $\frac{1}{2}$ $\frac{8}{1}$ $-\frac{1}{7}$ $\frac{1}{4} = 0.25$
terminating decimal	Decode terminating decimal
Definition a decimal that ends (stops)	Example 0.7 0.11 0.625
repeating decimal	Decode repeating decimal
Definition a decimal that repeats in a pattern	Example $\frac{1}{3} = 0.33333... = 0.\bar{3}$ $0.181818... = 0.\bar{18}$ $0.177777... = 0.1\bar{7}$

Example 1: Prove each number is rational.

I Do	You Do
-12	$2\frac{11}{15}$
$\frac{-12}{1}$	$\frac{41}{15}$

Example 2: Write each fraction as a decimal. *NO calculator!*

I Do	You Do
$\frac{7}{11}$	$\frac{5}{6}$ 0.833
<div style="display: flex; align-items: center;"> $\begin{array}{r} 0.6363 \\ 7 \overline{) 7.0000} \\ \underline{-666} \\ 40 \\ \underline{-330} \\ 70 \\ \underline{-66} \\ 40 \\ \underline{-33} \\ 7 \end{array}$ </div> 0.63	$ \begin{array}{r} 0.833 \\ 6 \overline{) 5.0000} \\ \underline{-486} \\ 20 \\ \underline{-186} \\ 20 \\ \underline{-186} \\ 20 \end{array} $

Example 3: Use decimals to compare fractions. *calculator*

I Do	You Do
$\frac{45}{49}$ and $\frac{27}{32}$ $0.918 > 0.84375$ $\frac{45}{49} > \frac{27}{32}$	$\frac{5}{22}$ and $\frac{3}{17}$ $0.22\bar{7}2 > 0.17647$ $\frac{5}{22} > \frac{3}{17}$

Example 4: Write each decimal as a fraction.

I Do	You Do
0.07 \uparrow hundredths $\frac{7}{100}$	-11.6 \uparrow tenths $-11\frac{6}{10} \div 2$ $-11\frac{3}{5}$