

January 17, 2017

* Quiz #1 - Tomorrow

- 1.1 → Sets
- Name & state sets
- Converting to Decimals
- Reading 1.1

Jan 17-9:01 AM

Sets

- $\mathbb{N} = \{1, 2, 3, \dots\}$
- $\mathbb{W} = \{0, 1, 2, 3, \dots\}$
- $\mathbb{Z} = \{\dots, -2, -1, 0, 1, 2, \dots\}$
- $\mathbb{Q} = \{\frac{a}{b} \mid a \neq 0, b \in \mathbb{Z} \neq 0\}$
- $\mathbb{Q}' = \{\text{all numbers not Rational}\}$
i.e. Irrational
- \mathbb{R} "Real" Numbers
= {all Rational & Irrational numbers}

Jan 17-9:03 AM

Number Line

Jan 17-9:09 AM

	\mathbb{N}	\mathbb{W}	\mathbb{Z}	\mathbb{Q}	\mathbb{Q}'	\mathbb{R}
0.16	x	x	x	✓	x	✓
$-\sqrt{5}$	x	x	x	x	✓	✓
$\frac{2}{7}$				✓	x	✓
-9			✓	✓	x	✓
0		✓	✓	✓	x	✓

Jan 17-9:23 AM

	\mathbb{N}	\mathbb{W}	\mathbb{Z}	\mathbb{Q}	\mathbb{Q}'	\mathbb{R}
-3			✓	✓		✓
$0.\overline{23}$				✓		✓
* $\frac{0}{71}$		✓	✓	✓		✓
-17					✓	✓
3	✓	✓	✓	✓		✓

Jan 17-9:31 AM

\mathbb{Q} ← Terminate $\frac{5}{8} = 0.625$
 ← Repeat $\frac{1}{6} \approx 0.1\overline{6}$

$\frac{3}{4} = \frac{5}{8}$, $\frac{3}{6} = \frac{1}{2}$

Convert to Decimal Form

$$\begin{array}{r}
 0.625 \\
 8 \overline{) 5.000} \\
 \underline{-48} \\
 20 \\
 \underline{-16} \\
 40 \\
 \underline{-40} \\
 0 \leftarrow \text{Remainder}
 \end{array}$$

$\frac{5}{8} = 0.625 \rightarrow$ Terminating

Jan 17-9:37 AM

$$\frac{1}{6} = 0.\overline{166}$$

Repeating Decimals

Jan 17-9:44 AM