

Math 0099
Spring 2015
Quiz #1

Name: Key Date: January 16, 2015

1. Use the chart below to place a check mark indicating which sets the item on the left is a member of.

	N	W	Z	Q	Q'	R
16	✓	✓	✓	✓		✓
$\sqrt{5}$					✓	✓
$\frac{2}{7}$				✓		✓
0.45				✓		✓
0		✓	✓	✓		✓

2. Convert the Non-Terminating decimal, $0.\overline{45}$ in to a fraction.

$$\begin{aligned} \text{Let } x &= 0.\overline{45} \\ 100x &= 45.\overline{45} \\ - x &= 0.\overline{45} \\ \hline 99x &= 45 \\ x &= \frac{45}{99} = \frac{5}{11} \end{aligned}$$

3. Use *Set-Builder Notation* to write the following: *all Rational Numbers less than 6.*

$$a = \{ x \in \mathbb{Q} \mid x < 6 \}$$

4. Write the first 5 members of the set $T = \{x \in \mathbb{Z} \mid x > -3\}$.

$$T = \{-2, -1, 0, 1, 2, \dots\}$$

5. Some real numbers are irrational. True or False? Write a sentence explaining your answer.

True. Irrational numbers are a subset of real numbers.

