

The Real Numbers

<p>The Natural Numbers N These are the counting numbers.</p>	$N = \{1, 2, 3, 4, 5, \dots\}$
<p>The Whole Numbers W These are the natural numbers, together with the number 0.</p>	$W = \{0, 1, 2, 3, 4, 5, \dots\}$
<p>The Integers Z These are the whole numbers together with the opposites of the natural numbers.</p>	$Z = \{\dots, -3, -2, -1, 0, 1, 2, 3, \dots\}$
<p>The Rational Numbers Q These are the numbers that can be written as a ratio of two integers.</p>	$Q = \left\{ \frac{a}{b} \mid a \text{ and } b \text{ are integers, with } b \neq 0 \right\}$ <p>Examples:</p> $\frac{3}{4}, \quad -\frac{5}{2}, \quad 0.35, \quad 6, \quad 0, \quad 0.\bar{3}$
<p>The Irrational Numbers I These are the numbers that cannot be written as a ratio of two integers.</p>	<p>Examples:</p> $\sqrt{5}, \quad \sqrt{8}, \quad \pi$

