

Math 9 Section 1.1 – The Real Number System

Homework: Section 1.1 on Pg. 6; 1-3all – Answers on Pg. 361

<p>Natural Numbers:</p> <p>Counting numbers</p> <p>Examples:</p> <p>1, 2, 3, 4, ...</p>	<p>Whole Numbers:</p> <p>Counting numbers and zero</p> <p>Examples:</p> <p>0, 1, 2, 3, 4, ...</p>	<p>Integers:</p> <p>positive and negative whole numbers</p> <p>Examples:</p> <p>... -3, -2, -1, 0, 1, 2, 3, ...</p>
<p>Rational Numbers:</p> <p>Numbers that can be written as fractions (ratios) <u>OR</u> any repeating/terminating decimal</p> <p>Repeating: $4.757575... = 4.\overline{75}$</p> <p>Terminating: -18.2589 (stops!)</p> <p>Examples:</p> <p>$\frac{2}{3}$, $-\frac{18}{7}$, $0.\overline{253} = 0.253253...$</p> <p>$-4.79$, $72\% = 0.72$, $-3 = -\frac{3}{1}$</p> <p>$\sqrt{16} = 4 = \frac{4}{1}$, $0 = \frac{0}{1}$</p>		<p>Irrational Numbers:</p> <p>NOT Can't write as fractions</p> <p>OR Can't write as repeating or terminating decimals</p> <p>Examples:</p> <p>$\sqrt{48} = 6.9282...$</p> <p>$\pi = 3.14159265...$</p> <p>$0.57238134...$</p>
<p>Real Numbers:</p> <p>Natural, whole, integers, rational and irrational numbers</p>	<p>NOT Real Numbers:</p> <p>$\sqrt{-36}$ or $\sqrt{-5}$</p>	

NOTE: There are an infinite number of...

* Natural numbers

* Whole numbers

* Integers

* rational numbers

* irrational numbers

Real numbers

Vsource
Infinity

non-real

Real Numbers

Rational 0.52 , 0 , 5 ,
 52% , $\frac{7}{5}$, $\sqrt{25} = 5$

Integers
 $\dots -3, -2, -1, 0, 1, 2, 3, 4, \dots$

whole numbers
 $0, 1, 2, 3, 4, \dots$

Natural numbers
 $1, 2, 3, \dots$

Irrational

$\sqrt{15}$

π

$0.5247813\dots$

Non-real $\sqrt{-5}$