

Algebra II

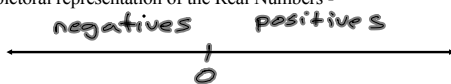
1-1

The Real Numbers and Their Graphs

Number Systems - A trip through history.

Symbol	Name	Description
\mathbb{N}	Natural	$\{1, 2, 3, \dots\}$
	Whole	$\{0, 1, 2, 3, \dots\}$
\mathbb{Z}	integers	$\{\dots, -2, -1, 0, 1, 2, \dots\}$
\mathbb{Q}	rational	Any number that can be written as a fraction
	irrational	Numbers that cannot be written as a fraction. π
\mathbb{R}	real	all the above.

Draw a pictorial representation of the Real Numbers -



Symbols of order -

$<, >, \leq, \geq$

$$\frac{2}{3} > \frac{1}{4}$$

True

$$-\frac{2}{3} > -\frac{1}{3}$$

False

$$0 \leq 3$$

True

$$7 \geq 7$$

True

Definitions

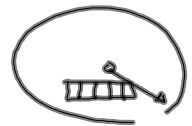
Opposite - negative

Absolute Value -

$$|-7| = 7$$

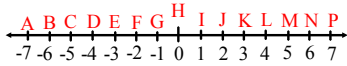
$$|7| = 7$$

$$|0| = 0$$



Why do we need absolute value? For distance.

Find the coordinate of each point described. Use the number line below. (pg 4)



1) $B = -6$

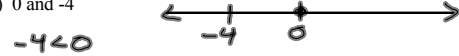
Write each statement using symbols.

11) Zero is greater than negative six.

$$0 > -6$$

Graph each pair of numbers on a separate number line. Then write an inequality statement comparing the numbers.

17) 0 and -4



$$-4 < 0$$

Find the value of each expression.

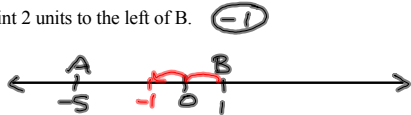
25) $|-5| - |-2|$

$$5 - 2$$

$$3$$

On a number line, point A has coordinate -5 and point B has coordinate 1. Find the coordinate of each point described.

33) The point 2 units to the left of B.



pg 4

2-40 even