

2.1: Use Integers and Rational Numbers

- Goals:** *Compare and order rational numbers
*Classify numbers as whole, integer and rational
*Understand and apply absolute value and opposites
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Whole Numbers:

Integers:

Rational Numbers:

Classify the following numbers using all names that apply:

a) 5

b) 0.6

c) -7

d) $-2\frac{2}{3}$

e) -24

*On a number line, where are larger numbers located?

Where are smaller numbers located?

So the biggest number is always...

Compare using: $>$, $<$, \geq , \leq , or $=$ (fill in the missing space)

Ex: -17 ____ 14

Ex: -22 ____ -15

Ex: 5.2 ____ 5.2003

Ex: 0.31 ____ 0.301

Some Helpful Hints to Comparing Numbers:

- 1.
2. When comparing two negative numbers:
3. When comparing decimals, positive or negative:
4. To compare fractions:
5. To compare fractions to decimals and vice versa:

Change the following decimals to fractions:

a) 0.77

b) 0.64

c) 0.375

Simplify the following fractions: (do NOT use long division)

a) $\frac{0.5}{10}$

b) $\frac{26}{1.3}$

c) $\frac{8}{1/2}$

Order the following numbers from least to greatest, then classify each number using all names that apply:

Ex: -0.03, 0.21, 0.09, -0.22

Ex: 3, -1.2, -2, 0

Ex: $4.5, -\frac{3}{4}, -2.1, 0.5$

Ex: $\frac{1}{6}, 1.75, -\frac{2}{3}, 0$

Ex: $3.6, -1.5, -0.31, -2.8$

Ex: The apparent magnitude of a star is its brightness as observed from Earth. The greater the magnitude, the dimmer the star. Order the stars from brightest to dimmest.

Star	Arcturus	Sirius	Vega
Magnitude	-0.6	-1.47	0.03

Opposites:

Absolute Value:

For the following numbers, find the opposite of each number and the absolute value of each number.

$$-a$$

$$|a|$$

Ex: $a = -2.5$

Ex: $x = \frac{3}{4}$

Ex: $y = \frac{3}{8}$

Ex: $b = -0.6$