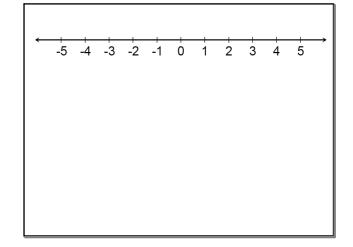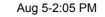2-1 Integers and Absolute Value

Aug 5-2:04 PM

-5 -4 -3 -2 -1 0 1 2 3 4 5

Aug 5-2:05 PM

-5 -4 -3 -2 -1 0 1 2 3 4 5

Ex.1   Graph the following numbers on a number line.

3, -4, 0, -1

Aug 5-2:05 PM

Absolute Value: The distance from zero on a number line

-6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6

$|6| = 6$ $|-6| = 6$

$|3| = 3$ $|-3| = 3$

To find Absolute Value drop any negative signs!!!
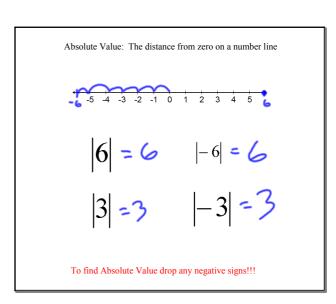
Aug 5-2:08 PM

Ex.2   Write a positive or negative quantity for each statement

A deposit of $250   250

45 seconds before launch   -45

a debt of $50   -50

an elevation of 3,400 feet   3400

300 feet below sea level   -300

Aug 5-2:15 PM

Finding Famous Ships

Scientist-explorer Robert D. Ballard led the expeditions that found two famous ships deep in the North Atlantic Ocean.

In ~~1912~~, the luxury passenger liner *Titanic* struck an iceberg. It came to rest 12,500 ft below sea level. *Titanic* was ~~882~~ ft long and 92 ft wide.

In ~~1941~~, the mighty warship *Bismarck* sank in battle. *Bismarck* was ~~823~~ ft long and ~~118~~ ft wide.

Star Hercules, only ~~269~~ ft long, towed the underwater camera sled that found *Bismarck* under 15,617 ft of water.

Ex.3   How would we write integers to represent the positions of Titanic and Bismarck?

-12,500   -15,617

A friend says that Bismarck's resting place is higher than Titanic's, since 15,617 is higher than 12,500. Explain your friend's error.

May 27-7:37 AM

1

Ex.4   Insert <, >, or = to make the following true:

$$-9 < 6$$

$$-8 > -11$$

$$|6| = |\text{-}6|$$

$$|\text{-}8| > 3$$

Sep 10-9:04 AM

Ex. 5

Evaluate each expression if $x = 8$ **and** $y = -3$.

$12 + |y|$ $x - |y|$ $2|x| + 3|y|$

May 18-3:39 PM

Ex.6   Write a number for each, then put the numbers in order

Ⓔ 3 units to the left of 0

Ⓢ the opposite of 8

Ⓝ 15 ft above sea level

Ⓔ a gain of 6 yd

Ⓘ 5° below zero

Ⓝ a deposit of $20

Ⓔ 14 steps backward

Ⓣ four seconds after liftoff

Ⓘ a loss of ten pounds

Ⓦ one floor down

Ⓔ 19 m below sea level

Ⓗ the opposite of −11

Sep 10-9:23 AM

Ex. 7

TEMPERATURES Order the state temperatures from least to greatest.

State	AL	AK	CA	FL	HI	ME	NJ	OH	TX
Temperature	−27	−80	−45	−2	12	−48	−34	−39	−23

May 18-1:37 PM

Ex. 8   **Evaluate each expression if** $a = -3$, $b = 0$, **and** $c = 1$.

$|a| - |c|$ $c + |5|$ $|ab| + c$

May 18-3:35 PM

Homework: page 64-65 (16-52 even)

May 18-1:48 PM