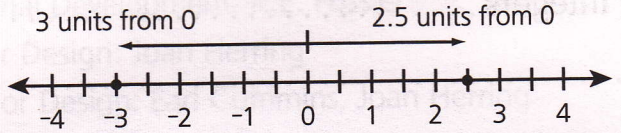
Integers and Absolute Value

The set of **integers** includes the **counting numbers,** their **opposites** (or **negatives**), and zero.

Integers	Not Integers
0, 11, -11, 694, -83	$\frac{1}{2}$, 3.26, $-9\frac{4}{5}$, 10.7

The **absolute value** of a number is its distance from zero on a number line.



The absolute value of 2.5 is 2.5: $|2.5| = 2.5$

The absolute value of -3 is 3: $|-3| = 3$

Rational numbers are numbers that can be written as fractions in the form $\frac{p}{q}$, where p and q are integers.

Rational numbers include all integers, fractions, and decimals that terminate or repeat.

-8 53 $\frac{6}{7}$ $-\frac{2}{3}$

0.875 $-6.454545\ldots$

Bars around a number indicate absolute value.

Read each problem. Circle the letter of the best answer.

1 What is the value of $|-7| - |-2|$?

A -9

B -5

C 5

D 9

First find the value of each absolute value. The absolute value of a number is its distance from zero: $|-7| = 7$ and $|-2| = 2$. Then subtract: $7 - 2 = 5$. The correct answer is C.

2 What is the absolute value of -3.8?

A 3.8

B $\frac{3}{8}$

C $-\frac{3}{8}$

D -3.8

3 Which number has the ***greatest*** value?

A 0

B -52.6875

C $|17|$

D $|-20.05|$

4 Which of the following statements is true?

A $|-0.67| > |-0.8|$

B $|-1.5| > |1.25|$

C $\left|\frac{5}{8}\right| > \left|-\frac{5}{8}\right|$

D $\left|7\frac{4}{9}\right| > \left|-7\frac{3}{5}\right|$

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Read each problem. Write your answers.

5 Look at the numbers listed below.

$|-6.2|$ $\left|-\frac{15}{2}\right|$ $|6.75|$

A List these numbers in order from ***least to greatest.***

Answer: _____

B Explain how you found your answer.

_____

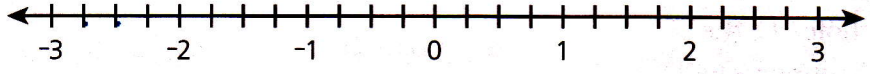
_____

_____

6 A set of rational numbers is below.

$|1.75|$ -1 $\left|-\frac{1}{2}\right|$ $\frac{5}{2}$

A On the number line below, draw and label a point for each number.



B Do the numbers -8.7 and $|-8.7|$ have the same value?

Answer: _____

C Explain how you know your answer to part B is correct.

_____

_____

_____

_____

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