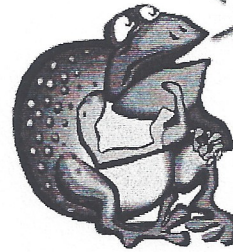


Name _____ Period _____

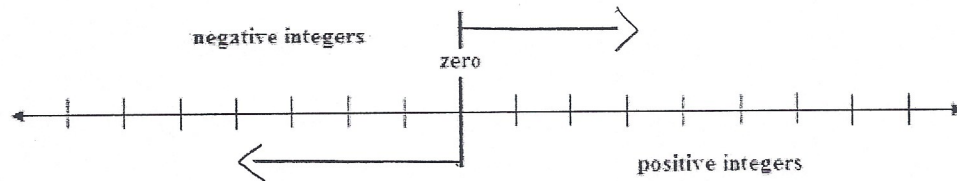
(accel)

So, absolute value gives a positive answer.

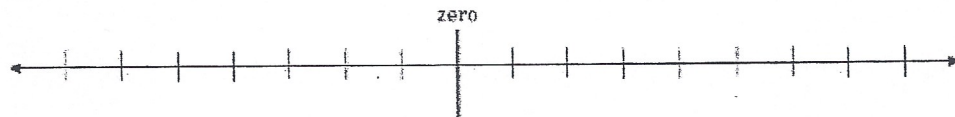


NOTES: Absolute Value - How far is a number from zero?

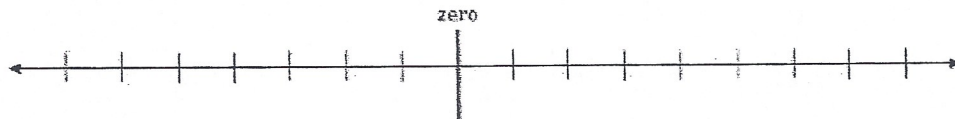
- -The absolute value of a number is its distance from zero on a number line.
- The absolute value of a number is always a positive number (unless the number is 0).
- -The absolute value of a number a is written as $|a|$. This is read, "the absolute value of a ."
- $|a|$ means take the absolute value of the number inside the symbols. Parentheses () are not the same as absolute value bars. $(-a) \neq |-a|$



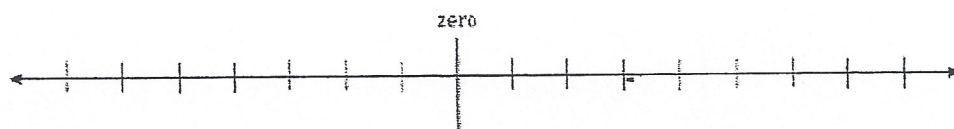
- 1) On the number line below, name 2 integers that are the same distance from zero. _____



- 2) Graph the absolute value of 2 on the number line.



- 3) Graph the absolute value of -3 on the number line.



4) Which expression does not belong with the other three?

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

5) Is the following statement true or false? _____

$|6| = -6$

6) Simplify the expressions.

$(34) =$ _____ $|34| =$ _____

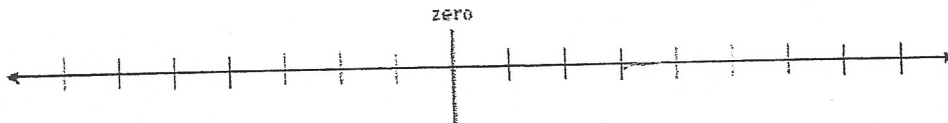
$(-4) =$ _____ $-|4| =$ _____

$(-15) =$ _____ $-|-15| =$ _____

Explain the difference between parentheses and absolute value bars.

7) a) Graph and label the following points on the number line:

$A = -3$ $E = 2$ $M = -6$ $T = 0$



What word do the letters spell from least to greatest? _____

b) Find the absolute value of each point in part a. When placed in order from least to greatest, what word do the letters spell now? _____

8) True or false?

a) The absolute value of every integer is positive. _____

b) If $x < 0$, then $|x| = -x$ _____

9) Order from least to greatest:

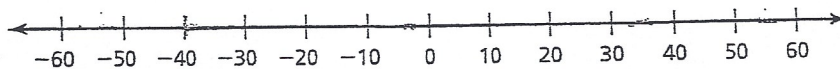
-12 $|-26|$ -15 $|-12|$ $|10|$

10) The freezing point is the temperature at which a liquid becomes a solid.

a) Which substance in the table has the lowest freezing point? _____

Substance	Freezing Point ($^{\circ}\text{C}$)
Butter	35
Airplane fuel	-53
Honey	-3
Mercury	-39
Candle wax	55

b) Graph each freezing point.



c) Is the freezing point of mercury or butter closer to the freezing point of water, 0°C ? Explain. _____

d) Is the freezing point of airplane fuel or candle wax closer to the freezing point of water? Explain. _____

11) Complete the statements using $<$, $>$, or $=$.

$$|-4| \text{ ______ } 7$$

$$-5 \text{ ______ } |-9|$$

$$|-4| \text{ ______ } -6$$

$$|5| \text{ ______ } |-5|$$

Thoughts and examples of absolute value.