

# ABSOLUTE VALUE AND INTEGERS

# ANSWERS

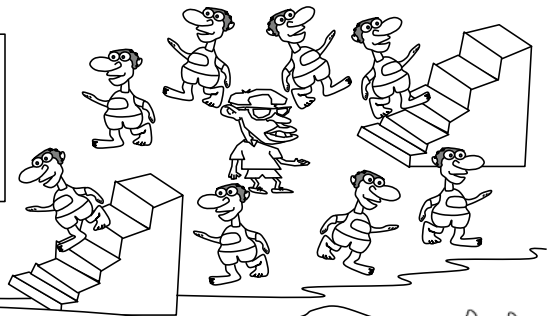


THE **ABSOLUTE VALUE** OF A NUMBER IS ITS DISTANCE FROM ZERO ON A NUMBER LINE. WE USE TWO VERTICAL LINES TO REPRESENT ABSOLUTE VALUE.

**EXAMPLE**  
 $|5| = 5$   
 $|-5| = 5$

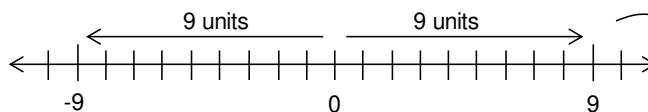


THINK ABOUT THIS: IF YOU TELL A FRIEND TO WALK 9 FEET AWAY FROM YOU, IT WILL NOT MATTER IF HE GOES LEFT OR RIGHT, BACKWARDS OR FORWARDS, OR UP OR DOWN. NO MATTER WHICH WAY HE GOES HE WILL STILL BE 9 FEET AWAY FROM YOU. THAT IS WHAT ABSOLUTE VALUE IS TELLING US.



SO THE ABSOLUTE VALUE OF -9 AND 9 BOTH EQUAL 9.

$|-9| = 9$   
 $|9| = 9$

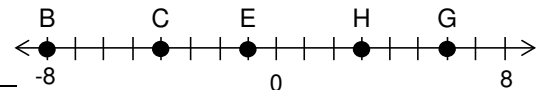


IF YOU THINK ABOUT IT, ALL WE'RE DOING IS CHANGING ANY NUMBER IN THE ABSOLUTE VALUE TO A POSITIVE NUMBER.

Now your turn.

Write the coordinate of each point on the number line.

1. C -4   2. G 6   3. B -8   4. E -1   5. H 3



Write the absolute value for each point.

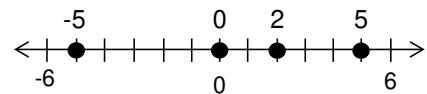
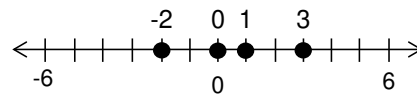
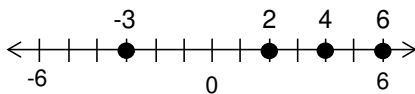
6. |C| 4   7. |G| 6   8. |B| 8   9. |E| 1   10. |H| 3

Graph the set of numbers on each number line.

11.  $\{6, -3, |2|, |-4|\}$

12.  $\{|-3|, -2, |1|, 0\}$

13.  $\{-5, |0|, |-2|, 5\}$



Write < or > in each blank to make a true sentence.

14.  $-5$  <  $5$    15.  $|-9|$  >  $-9$    16.  $3$  <  $4$    17.  $1$  <  $|6|$    18.  $|-3|$  >  $|2|$

Evaluate each expression.

19.  $|-2|$  2   20.  $|13|$  13   21.  $|-17|$  17   22.  $|7|$  7   23.  $|0|$  0

24.  $|-2| + |-5|$  7   25.  $|6| - |-6|$  0   26.  $|-3| + |4|$  7   27.  $|2 - 3|$  1

**HELP**  
 $2 + 5$