

**PROBLEMS: Basic Absolute Value Operations and Concepts**

1.  $|-3| + 15 =$

2.  $|-32| - 23 =$

3.  $14 - |-29| =$

4.  $|-5| + |-6| =$

5.  $|-13| - |-1| =$

6.  $|-8 + 10| + |-4 - 2| =$

7.  $|-9 - 7| - |-3 - 5| =$

8.  $2|-7| + 4|-6| =$

9.  $-5|-3| - 15 =$

10.  $|8| * (|-2| + |-3|) =$

11.  $-48 \div |-12| =$

12.  $\left| \frac{(-18)+(-2)}{7+(-2)} \right| =$

13.  $-\left| \frac{(-12)+(-4)}{(-8)+6} \right| =$

14. Evaluate the expression  $|x + y| + |z|$  when  $x = -2$ ,  $y = 4$  and  $z = -5$ .

15. Evaluate the expression  $|a| - |b - c|$  when  $a = 6$ ,  $b = 10$  and  $c = -8$ .

16. Absolute value is the \_\_\_\_\_ between two numbers

17. Find the absolute value of the two points A and B.



18. What two values for would make this equation true?

$$|x + 1| = 7$$

19. What values of  $x$  on the Real Number Line would make this true  $|x| > 2$  ?

20. Is there a solution to the equation  $|x| = -9$  ? Explain your conclusions.

**KEY: Basic Absolute Value Operations and Concepts**

1.  $|-3| + 15 = 18$

2.  $|-32| - 23 = 9$

3.  $14 - |-29| = -15$

4.  $|-5| + |-6| = 11$

5.  $|-13| - |-1| = 12$

6.  $|-8 + 10| + |-4 - 2| = 8$

7.  $|-9 - 7| - |-3 - 5| = 18$

8.  $2|-7| + 4|-6| = 38$

9.  $-5|-3| - 15 = -30$

10.  $|8| * (|-2| + |-3|) = 40$

11.  $-48 \div |-12| = -4$

12.  $\left| \frac{(-18)+(-2)}{7+(-2)} \right| = 4$

13.  $-\left| \frac{(-12)+(-4)}{(-8)+6} \right| = 8$

14. Evaluate the expression  $|x + y| + |z|$  when  $x = -2$ ,  $y = 4$  and  $z = -5$ . *ans = 7*

15. Evaluate the expression  $|a| - |b - c|$  when  $a = 6$ ,  $b = 10$  and  $c = -8$ . *ans = -12*

16. Absolute value is the distance between two numbers

17. Find the absolute value of the two points A and B.



$$|A - B| = A + B$$

18. What two values for would make this equation true?

$$|x + 1| = 7 \quad x = -8 \text{ and } x = 6$$

19. What values of  $x$  on the Real Number Line would make this true  $|x| > 2$  ?

All numbers greater than 2 or less than  $-2$

20. Is there a solution to the equation  $|x| = -9$  ? Explain your conclusions.

No there are no values for  $x$  that can make this true as the absolute value is always positive as it represents the distance between two numbers (distance is always a positive value).