

Date Completed: _____
Mentor Initials: _____

A mentor can change everything.



Absolute Value

1. $|13 - 9| - |9 - 13| = ?$
A. -16
B. -8
C. -4
D. 0
E. 8

2. $|3(-5) + 3| = ?$
A. -18
B. -12
C. 7
D. 12
E. 18

$$|x - 10| = 4$$

3. If c and d are the solutions to the equation above, what is the value of $|c - d|$?
A. 0
B. 6
C. 8
D. 10
E. 14
4. $-3|6 - 9| = ?$
A. -45
B. -9
C. 0
D. 9
E. 45
5. For all nonzero values of x and y , the value of which of the following expressions is *always* negative?
A. $x - y$
B. $-x - y$
C. $|x| - y$
D. $x - |y|$
E. $-|x| - |y|$

6. If $x > |y|$, which of the following is the solution statement for x when $y = -7$?
- A. $x < -7$
 - B. $-7 < x < 7$
 - C. $x < 7$
 - D. $7 < x$
 - E. $-7 < x$
7. It costs x dollars for an adult ticket to a Patriots game and y dollars for a children's ticket. The difference between the cost of 15 adult tickets and 20 children tickets is \$44. Which of the following equations represents this relationship between x and y ?
- A. $15x - 20y = 44$
 - B. $|15x - 20y| = 44$
 - C. $|15x + 20y| = 44$
 - D. $|20y - 15x| = 44$
 - E. $|20y + 15x| = 44$
8. If $x < y$, then $|x - y|$ is equivalent to which of the following?
- A. $x + y$
 - B. $-(x + y)$
 - C. $\sqrt{x - y}$
 - D. $x - y$
 - E. $-(x - y)$
9. For real numbers c and d , when is the equation $|c + d| = |c - d|$ true?
- A. Always
 - B. Only when $c = d$
 - C. Only when $c = 0$ or $d = 0$
 - D. Only when $c = 0$ and $d = 0$
 - E. Never

$$-10|v - 5| = -60$$

10. If x and y are the solutions to the equation above, what is the value of $x + y$?
- A. -5
 - B. -1
 - C. 5
 - D. 10
 - E. 11

11. Which of the following inequalities is equivalent to $(|x| + 4)^2 \leq 25$?
- A. $-9 \leq x \leq -1$
 - B. $-9 \leq x \leq 9$
 - C. $-1 \leq x \leq 1$
 - D. $-9 \leq x \leq 1$
 - E. $-1 \leq x \leq 9$
12. The solution set of which of the following equations is the set of real numbers that are 10 units away from -8 ?
- A. $|x + 8| = 10$
 - B. $|x - 8| = 10$
 - C. $|x + 10| = 8$
 - D. $|x - 10| = 8$
 - E. $|10 - x| = 8$