Date Completed: _____
Mentor Initials: _____

Absolute Value (Basic)

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. $|10 - x| = 8$