Absolute Value Inequalities Quiz Answer Key

1. Solve: $|x| \leq 5$

   a) $-5 \leq x \leq 5$

   b) $x \leq -5 \text{ or } x \geq 5$

   c) All real numbers are solutions

   d) There are no solutions

2. Solve for x: $|x+2| < 3$

   a) $-5 < x < 1$

   b) $x < -5 \text{ or } x > 1$

   c) All real numbers are solutions

   d) There are no solutions

3. Find the solution for $|x-7| > -2$

   a) $-5 < x < 1$

   b) $x < -5 \text{ or } x > 1$

   c) All real numbers are solutions

   d) There are no solutions

4. Determine the solution for: $|x+8| \geq 4$

   a) $-12 \leq x \leq -4$

   b) $x \leq -12 \text{ or } x \geq -4$

   c) All real numbers are solutions

   d) There are no solutions

5. Find the solution for $|2x-1| \leq 7$

   a) $-14 \leq x \leq -6$

   b) $-3 \leq x \leq 4$

   c) $-1 \leq x \leq 5$

   d) None of the above

6. What are the solutions for $\left|\frac{x}{2}+3\right| > 6$

a) $x < -18 \text{ or } x > -6$

b) $x < -6 \text{ or } x > 18$

c) $x < -3 \text{ or } x > \frac{1}{2}$

d) None of the above

7. Solve: $\left|2x + \frac{1}{2}\right| \leq 1$

a) $-\frac{3}{4} \leq x \leq \frac{1}{4}$

b) $x < -\frac{3}{4} \text{ or } x > \frac{1}{4}$

c) All real numbers are solutions

d) There are no solutions

8. Determine the solutions for $|7x - 2| > 3$

a) $x < -\frac{1}{7} \text{ or } x > \frac{5}{7}$

b) $-\frac{1}{7} < x < \frac{5}{7}$

c) All real numbers are solutions

d) There are no solutions

9. Solve: $\left|\frac{3x}{2} + 1\right| \leq -4$

a) $x \leq -2 \text{ or } x > \frac{10}{3}$

b) $-\frac{10}{3} \leq x \leq 2$

c) All real numbers are solutions

d) There are no solutions

10. Solve: $|4x + 1| > 9$

a) $x > 2 \text{ or } x < -\frac{5}{2}$

b) $-\frac{5}{2} < x < 2$

c) All real numbers are solutions

d) There are no solutions