Lesson 8.8

Solutions of Inequalities

Determine whether the given value of the variable is a solution of the inequality.

1. \( s \geq -1; \ s = 1 \)
   \[
   1 \ ? \ -1
   \]
   solution

2. \( p < 0; \ p = 4 \)
   \[
   p < 0
   \]
   \[
   4 < 0 \quad \text{not a solution}
   \]

3. \( y \leq -3; \ y = -1 \)
   \[
   y \leq -3
   \]
   \[
   -1 \leq -3 \quad \text{not a solution}
   \]

4. \( u > -\frac{1}{2}; \ u = 0 \)
   \[
   U > -\frac{1}{2}
   \]
   \[
   0 > -\frac{1}{2}
   \]
   Solution

5. \( q \geq 0.6; \ q = 0.23 \)
   \[
   q \geq 0.6
   \]
   \[
   0.23 \geq 0.6 \quad \text{not a solution}
   \]

6. \( b < \frac{23}{4}; \ b = \frac{2}{3} \)
   \[
   b < \frac{23}{4}
   \]
   \[
   \frac{2}{3} < \frac{23}{4} \quad \text{solution}
   \]

7. \( j \leq -5.7; \ j = -6 \)
   \[
   j \leq -5.7
   \]
   \[
   -6 \leq -5.7
   \]
   Solution

8. \( a > -8; \ a = -7.5 \)
   \[
   a > -8
   \]
   \[
   -7.5 > -8 \quad \text{solution}
   \]

9. \( w \geq 4.5; \ w = 4.45 \)
   \[
   w \geq 4.5
   \]
   \[
   4.45 \geq 4.5 \quad \text{not a solution}
   \]

Give two solutions of the inequality.

10. \( k < 2 \)
    etc.
    \[
    1, 0, -1, -2, -3
    \]

11. \( z \geq -3 \)
    etc.
    \[
    -3, -2, -1, 0, 1 \quad \text{etc.}
    \]

12. \( f \leq -5 \)
    etc.
    \[
    -5, -6, -7, -8, -9
    \]

Problem Solving

13. The inequality \( s \geq 92 \) represents the score \( s \) that Jared must earn on his next test to get an A on his report card. Give two possible scores that Jared could earn to get the A.

   anywhere from
   \[
   92 - 100 \%
   \]

14. The inequality \( m \leq $20 \) represents the amount of money that Sheila is allowed to spend on a new hat. Give two possible money amounts that Sheila could spend on the hat.

   anywhere from
   \[
   0 - 20
   \]