PROBLEMS AND SOLUTIONS - INEQUALITIES
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Please Send Questions and Comments to ingrid.stewart@csn.edu. Thank you!

PLEASE NOTE THAT YOU CANNOT USE A CALCULATOR ON THE ACCUPLACER - ELEMENTARY ALGEBRA TEST! YOU MUST BE ABLE TO DO THE FOLLOWING PROBLEMS WITHOUT A CALCULATOR!

Problem 1:

Find the solution set for $3 - 5x \geq 13$ in $Interval Notation$. Then graph the solution set on the number line!

Problem 2:

Find the solution set for $6x - 15 \geq 3$ in $Interval Notation$. Then graph the solution set on the number line!

Problem 3:

Find the solution set for $x - 9 < 5x + 7$ in $Interval Notation$. Then graph the solution set on the number line!

Problem 4:

Find the solution set for $-2 < 5x + 1 \leq 3$ in $Interval Notation$. Then graph the solution set on the number line!

Problem 5:

Find the solution set for $\frac{3}{4} - x > \frac{7}{8}$ in $Interval Notation$. Then graph the solution set on the number line!

Problem 6:

Find the solution set for $3x + 2(4 - 9x) - 3(x - 3) + x < 0$ in $Interval Notation$.

Problem 7:

Find the solution set for $7 - (x - 8) \leq 4x$ in $Interval Notation$. 
Problem 8:

\[ \frac{2}{3} \leq \frac{5 - 3x}{2} < \frac{3}{4} \]

Find the solution set for in Interval Notation.

Problem 9:

Find the solution set for in Interval Notation. Then graph the solution set on the number line!

Problem 10:

Find the solution set for in Interval Notation. Then graph the solution set on the number line!

Problem 11:

Find the solution set for in Interval Notation. Then graph the solution set on the number line!

Problem 12:

Find the solution set for in Interval Notation. Then graph the solution set on the number line!

SOLUTIONS

You can find detailed solutions below the link for this problem set!

1. \((-\infty, -2]\)

   \[\begin{array}{cccccccc}
   \hline
   -6 & -5 & -4 & -3 & -2 & -1 & 0 & 1 & 2 & 3 & 4 & 5 \\
   \hline
   \end{array}\]

2. a. \([3, \infty)\)

   \[\begin{array}{cccccccc}
   \hline
   -6 & -5 & -4 & -3 & -2 & -1 & 0 & 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 \\
   \hline
   \end{array}\]
3. \((-4, \infty)\)

4. \((-\frac{3}{5}, \frac{2}{5})\)

5. \((-\infty, -\frac{1}{8})\)

6. \((1, \infty)\)

7. \([3, \infty)\)

8. \([\frac{7}{9}, \frac{11}{6}]\)

9. \((-4, 6)\)

10. \([1, 3]\)
11.\[ (-\infty, -1) \cup \left( -\frac{3}{5}, \infty \right) \]

12.\[ (-\infty, -1] \cup [2, \infty) \]