

1. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$-4 + 9x > 10x \text{ or } 9 + 4x < 5x$$

- A. $(-\infty, a] \cup [b, \infty)$, where $a \in [-9, -6]$ and $b \in [0, 7]$
 - B. $(-\infty, a] \cup [b, \infty)$, where $a \in [-5, 1]$ and $b \in [9, 11]$
 - C. $(-\infty, a) \cup (b, \infty)$, where $a \in [-10, -5]$ and $b \in [3, 8]$
 - D. $(-\infty, a) \cup (b, \infty)$, where $a \in [-8, 0]$ and $b \in [9, 15]$
 - E. $(-\infty, \infty)$
-

2. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$5x - 10 > 9x + 9$$

- A. $(-\infty, a)$, where $a \in [-6.75, 2.25]$
 - B. (a, ∞) , where $a \in [-6.75, -3.75]$
 - C. $(-\infty, a)$, where $a \in [3.75, 5.75]$
 - D. (a, ∞) , where $a \in [-0.25, 7.75]$
 - E. None of the above.
-

3. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$4x - 4 \leq 8x - 8$$

- A. $[a, \infty)$, where $a \in [0.4, 1.9]$
- B. $(-\infty, a]$, where $a \in [-1.23, 0.7]$
- C. $(-\infty, a]$, where $a \in [0.2, 1.16]$
- D. $[a, \infty)$, where $a \in [-2, -0.8]$
- E. None of the above.

-
4. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$-3 + 9x < \frac{86x - 5}{9} \leq -6 + 6x$$

- A. $(a, b]$, where $a \in [-4.4, 3.6]$ and $b \in [-3.53, 1.47]$
B. $[a, b)$, where $a \in [-4.4, -2.4]$ and $b \in [-3.53, 1.47]$
C. $(-\infty, a] \cup (b, \infty)$, where $a \in [-12.4, -0.4]$ and $b \in [-8.53, 1.47]$
D. $(-\infty, a) \cup [b, \infty)$, where $a \in [-5.4, -1.4]$ and $b \in [-4.53, 0.47]$
E. None of the above.
-

5. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$4 + 6x \leq \frac{52x - 8}{6} < 4 + 8x$$

- A. $(a, b]$, where $a \in [0, 7]$ and $b \in [3, 10]$
B. $[a, b)$, where $a \in [1, 7]$ and $b \in [8, 9]$
C. $(-\infty, a] \cup (b, \infty)$, where $a \in [0, 3]$ and $b \in [4, 11]$
D. $(-\infty, a) \cup [b, \infty)$, where $a \in [0, 5]$ and $b \in [6, 11]$
E. None of the above.
-

6. Using an interval or intervals, describe all the x -values within or including a distance of the given values.

More than 10 units from the number -10 .

- A. $(-\infty, -20] \cup [0, \infty)$
B. $(-20, 0)$
C. $[-20, 0]$

- D. $(-\infty, -20) \cup (0, \infty)$
E. None of the above
-

7. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$\frac{-5}{3} - \frac{9}{9}x > \frac{5}{6}x + \frac{8}{7}$$

- A. $(-\infty, a)$, where $a \in [-4.53, -0.53]$
B. (a, ∞) , where $a \in [1.53, 2.53]$
C. $(-\infty, a)$, where $a \in [0.53, 3.53]$
D. (a, ∞) , where $a \in [-2.53, 0.47]$
E. None of the above.
-

8. Using an interval or intervals, describe all the x -values within or including a distance of the given values.

More than 8 units from the number 2.

- A. $(6, 10)$
B. $(-\infty, 6) \cup (10, \infty)$
C. $[6, 10]$
D. $(-\infty, 6] \cup [10, \infty)$
E. None of the above
-

9. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$-9 + 5x > 6x \text{ or } -8 + 7x < 9x$$

- A. $(-\infty, a] \cup [b, \infty)$, where $a \in [-15, -2]$ and $b \in [-6, -2]$

- B. $(-\infty, a) \cup (b, \infty)$, where $a \in [-1, 5]$ and $b \in [7, 10]$
 - C. $(-\infty, a) \cup (b, \infty)$, where $a \in [-9, -6]$ and $b \in [-7, -1]$
 - D. $(-\infty, a] \cup [b, \infty)$, where $a \in [0, 5]$ and $b \in [7, 14]$
 - E. $(-\infty, \infty)$
-

10. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$\frac{-9}{5} - \frac{7}{7}x > \frac{7}{8}x + \frac{9}{6}$$

- A. $(-\infty, a)$, where $a \in [-3.76, -0.76]$
 - B. $(-\infty, a)$, where $a \in [-1.24, 7.76]$
 - C. (a, ∞) , where $a \in [-0.24, 3.76]$
 - D. (a, ∞) , where $a \in [-2.76, 1.24]$
 - E. None of the above.
-