

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

$$-10x - 9 > -4x - 8$$

- A. $(-\infty, a)$, where $a \in [-0.57, -0.06]$
 - B. $(-\infty, a)$, where $a \in [0.11, 0.28]$
 - C. (a, ∞) , where $a \in [-0.31, -0.04]$
 - D. (a, ∞) , where $a \in [0.03, 0.19]$
 - E. None of the above.
-

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

$$-3 + 5x > 8x \text{ or } 7 + 3x < 6x$$

- A. $(-\infty, a) \cup (b, \infty)$, where $a \in [-2, 4]$ and $b \in [1.6, 3.9]$
 - B. $(-\infty, a) \cup (b, \infty)$, where $a \in [-4.33, -1.33]$ and $b \in [-3.2, 1.3]$
 - C. $(-\infty, a] \cup [b, \infty)$, where $a \in [-1.66, -0.62]$ and $b \in [1.33, 5.33]$
 - D. $(-\infty, a] \cup [b, \infty)$, where $a \in [-4.61, -1.9]$ and $b \in [-1, 2]$
 - E. $(-\infty, \infty)$
-

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

$$-8 + 9x > 11x \text{ or } 6 + 9x < 12x$$

- A. $(-\infty, a] \cup [b, \infty)$, where $a \in [-3.2, -0.1]$ and $b \in [3.1, 6.8]$
- B. $(-\infty, a) \cup (b, \infty)$, where $a \in [-5, -3]$ and $b \in [0.64, 2.89]$
- C. $(-\infty, a] \cup [b, \infty)$, where $a \in [-5, -2.7]$ and $b \in [-0.7, 3.7]$
- D. $(-\infty, a) \cup (b, \infty)$, where $a \in [-3, -1]$ and $b \in [3.85, 4.43]$
- E. $(-\infty, \infty)$

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

$$\frac{-8}{3} + \frac{6}{2}x > \frac{8}{9}x + \frac{3}{6}$$

- A. (a, ∞) , where $a \in [0.5, 4.5]$
- B. (a, ∞) , where $a \in [-1.5, -0.5]$
- C. $(-\infty, a)$, where $a \in [-0.5, 2.5]$
- D. $(-\infty, a)$, where $a \in [-1.5, 0.5]$
- E. None of the above.

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

$$-5x - 8 < 3x + 4$$

- A. $(-\infty, a)$, where $a \in [-4.5, 0.5]$
- B. $(-\infty, a)$, where $a \in [-0.5, 2.5]$
- C. (a, ∞) , where $a \in [-3.5, 0.5]$
- D. (a, ∞) , where $a \in [1.5, 5.5]$
- 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 4 units from the number 6.

- A. $(-2, 10)$
- B. $(-\infty, -2) \cup (10, \infty)$
- C. $[-2, 10]$

- D. $(-\infty, -2] \cup [10, \infty)$
E. None of the above
-

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

$$-3 + 5x < \frac{46x - 9}{7} \leq 7 + 6x$$

- A. $[a, b)$, where $a \in [-5.09, -0.09]$ and $b \in [9.5, 17.5]$
B. $(a, b]$, where $a \in [-4.09, 0.91]$ and $b \in [12.5, 15.5]$
C. $(-\infty, a] \cup (b, \infty)$, where $a \in [-3.09, -0.09]$ and $b \in [12.5, 19.5]$
D. $(-\infty, a) \cup [b, \infty)$, where $a \in [-1.2, 0.5]$ and $b \in [12.5, 20.5]$
E. None of the above.
-

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

$$-8 + 4x < \frac{16x - 3}{3} \leq 4 + 3x$$

- A. $(-\infty, a] \cup (b, \infty)$, where $a \in [0.25, 7.25]$ and $b \in [-5.14, 0.86]$
B. $(-\infty, a) \cup [b, \infty)$, where $a \in [3.25, 6.25]$ and $b \in [-5.14, 0.86]$
C. $[a, b)$, where $a \in [5.25, 6.25]$ and $b \in [-6.14, -0.14]$
D. $(a, b]$, where $a \in [4.25, 11.25]$ and $b \in [-4.14, -0.14]$
E. None of the above.
-

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

$$\frac{-5}{8} - \frac{8}{5}x < \frac{-4}{6}x + \frac{4}{7}$$

- A. (a, ∞) , where $a \in [-2.28, -0.28]$

- B. $(-\infty, a)$, where $a \in [-2.28, 0.72]$
 - C. (a, ∞) , where $a \in [1.28, 4.28]$
 - D. $(-\infty, a)$, where $a \in [0.28, 3.28]$
 - E. None of the above.
-

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

Less than 9 units from the number 2.

- A. $[7, 11]$
 - B. $(-\infty, 7) \cup (11, \infty)$
 - C. $(-\infty, 7] \cup [11, \infty)$
 - D. $(7, 11)$
 - E. None of the above
-