

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

$$\frac{6}{8} + \frac{4}{5}x \geq \frac{9}{6}x - \frac{8}{9}$$

- A. $[a, \infty)$, where $a \in [-1.5, 8.25]$
 - B. $(-\infty, a]$, where $a \in [-6, -0.75]$
 - C. $(-\infty, a]$, where $a \in [0.75, 6]$
 - D. $[a, \infty)$, where $a \in [-4.5, 0.75]$
 - E. None of the above.
-

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

$$-8 + 4x > 5x \text{ or } 3 + 6x < 8x$$

- A. $(-\infty, a] \cup [b, \infty)$, where $a \in [-11.25, -3.75]$ and $b \in [0.75, 6.75]$
 - B. $(-\infty, a] \cup [b, \infty)$, where $a \in [-4.5, 2.25]$ and $b \in [2.25, 9]$
 - C. $(-\infty, a) \cup (b, \infty)$, where $a \in [-3.75, 3]$ and $b \in [6.75, 9.75]$
 - D. $(-\infty, a) \cup (b, \infty)$, where $a \in [-12, -3.75]$ and $b \in [-1.5, 7.5]$
 - E. $(-\infty, \infty)$
-

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

$$9 - 9x < \frac{-49x + 9}{9} \leq 6 - 6x$$

- A. $(-\infty, a) \cup [b, \infty)$, where $a \in [-3.75, -1.5]$ and $b \in [-11.25, -6.75]$
- B. $(a, b]$, where $a \in [-7.5, 0]$ and $b \in [-10.5, -7.5]$
- C. $(-\infty, a] \cup (b, \infty)$, where $a \in [-7.5, 1.5]$ and $b \in [-15.75, -4.5]$
- D. $[a, b)$, where $a \in [-3.75, 0.75]$ and $b \in [-9.75, -3]$

E. None of the above.

4. 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 -4 .

- A. $(-\infty, -14) \cup (6, \infty)$
 - B. $[-14, 6]$
 - C. $(-14, 6)$
 - D. $(-\infty, -14] \cup [6, \infty)$
 - E. None of the above
-

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

$$8x - 7 < 10x + 7$$

- A. (a, ∞) , where $a \in [7, 11]$
 - B. $(-\infty, a)$, where $a \in [5, 8]$
 - C. (a, ∞) , where $a \in [-10, -6]$
 - D. $(-\infty, a)$, where $a \in [-11, -1]$
 - E. None of the above.
-

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

$$-5 + 4x > 7x \text{ or } 8 + 3x < 4x$$

- A. $(-\infty, a] \cup [b, \infty)$, where $a \in [-11.25, -7.5]$ and $b \in [-0.75, 5.25]$
- B. $(-\infty, a] \cup [b, \infty)$, where $a \in [-3.75, 0.75]$ and $b \in [4.5, 9]$
- C. $(-\infty, a) \cup (b, \infty)$, where $a \in [-4.5, 1.5]$ and $b \in [6.75, 15]$

- D. $(-\infty, a) \cup (b, \infty)$, where $a \in [-11.25, -3]$ and $b \in [0.75, 4.5]$
E. $(-\infty, \infty)$
-

7. 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 5.

- A. $[-3, 13]$
B. $(-\infty, -3) \cup (13, \infty)$
C. $(-3, 13)$
D. $(-\infty, -3] \cup [13, \infty)$
E. None of the above
-

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

$$-3 - 3x < \frac{-7x + 9}{4} \leq 9 - 3x$$

- A. $[a, b)$, where $a \in [-7.5, -0.75]$ and $b \in [2.25, 9]$
B. $(-\infty, a] \cup (b, \infty)$, where $a \in [-5.25, 2.25]$ and $b \in [3, 10.5]$
C. $(a, b]$, where $a \in [-5.25, -1.5]$ and $b \in [5.25, 6]$
D. $(-\infty, a) \cup [b, \infty)$, where $a \in [-7.5, 0.75]$ and $b \in [2.25, 6]$
E. None of the above.
-

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

$$-9x - 7 > -6x + 8$$

- A. (a, ∞) , where $a \in [-7, 0]$

- B. $(-\infty, a)$, where $a \in [-6, 1]$
 - C. $(-\infty, a)$, where $a \in [4, 8]$
 - D. (a, ∞) , where $a \in [5, 8]$
 - E. None of the above.
-

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

$$\frac{8}{3} - \frac{7}{6}x < \frac{-4}{4}x - \frac{10}{8}$$

- A. $(-\infty, a)$, where $a \in [20.25, 25.5]$
 - B. (a, ∞) , where $a \in [-24.75, -20.25]$
 - C. $(-\infty, a)$, where $a \in [-26.25, -20.25]$
 - D. (a, ∞) , where $a \in [21, 27.75]$
 - E. None of the above.
-