

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

$$\frac{-10}{2} - \frac{3}{7}x \leq \frac{8}{5}x + \frac{5}{9}$$

- A. $[a, \infty)$, where $a \in [-2.74, 1.26]$
 - B. $(-\infty, a]$, where $a \in [0.74, 3.74]$
 - C. $(-\infty, a]$, where $a \in [-3.74, -1.74]$
 - D. $[a, \infty)$, where $a \in [1.74, 5.74]$
 - E. None of the above.
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2. Using an interval or intervals, describe all the x -values within or including a distance of the given values.

More than 5 units from the number -8 .

- A. $[-13, -3]$
 - B. $(-\infty, -13] \cup [-3, \infty)$
 - C. $(-\infty, -13) \cup (-3, \infty)$
 - D. $(-13, -3)$
 - E. None of the above
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3. Using an interval or intervals, describe all the x -values within or including a distance of the given values.

No less than 5 units from the number -10 .

- A. $(-\infty, -15) \cup (-5, \infty)$
- B. $(-\infty, -15] \cup [-5, \infty)$
- C. $(-15, -5)$
- D. $[-15, -5]$

E. None of the above

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

$$\frac{-6}{2} - \frac{7}{9}x < \frac{-3}{3}x + \frac{9}{8}$$

- A. $(-\infty, a)$, where $a \in [15.56, 24.56]$
B. $(-\infty, a)$, where $a \in [-20.56, -15.56]$
C. (a, ∞) , where $a \in [13.56, 21.56]$
D. (a, ∞) , where $a \in [-19.56, -15.56]$
E. None of the above.
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5. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$-3 + 6x < \frac{29x - 7}{4} \leq 8 + 4x$$

- A. $(-\infty, a) \cup [b, \infty)$, where $a \in [-0.2, 2.1]$ and $b \in [-6, -2]$
B. $(a, b]$, where $a \in [0, 4]$ and $b \in [-5, -2]$
C. $[a, b)$, where $a \in [0.7, 2.2]$ and $b \in [-8, 0]$
D. $(-\infty, a] \cup (b, \infty)$, where $a \in [0.6, 2.5]$ and $b \in [-9, 0]$
E. None of the above.
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6. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$-9 + 6x > 8x \text{ or } -3 + 3x < 4x$$

- A. $(-\infty, a) \cup (b, \infty)$, where $a \in [-5.5, -1.5]$ and $b \in [-6, -1]$
B. $(-\infty, a] \cup [b, \infty)$, where $a \in [-4.5, -1.5]$ and $b \in [-6, 0]$

- C. $(-\infty, a) \cup (b, \infty)$, where $a \in [-1, 5]$ and $b \in [2.5, 6.5]$
- D. $(-\infty, a] \cup [b, \infty)$, where $a \in [0, 8]$ and $b \in [-0.5, 5.5]$
- E. $(-\infty, \infty)$

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

$$-10x - 3 \leq 8x + 10$$

- A. $(-\infty, a]$, where $a \in [-1.05, 0.66]$
- B. $(-\infty, a]$, where $a \in [0.02, 1.01]$
- C. $[a, \infty)$, where $a \in [-1.14, 0.02]$
- D. $[a, \infty)$, where $a \in [0.57, 2.51]$
- E. None of the above.

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

$$-9 + 8x < \frac{44x - 6}{5} \leq 5 + 4x$$

- A. $(-\infty, a) \cup [b, \infty)$, where $a \in [-12.75, -5.75]$ and $b \in [1.29, 4.29]$
- B. $(-\infty, a] \cup (b, \infty)$, where $a \in [-12.75, -8.75]$ and $b \in [-0.71, 2.29]$
- C. $(a, b]$, where $a \in [-11.75, -5.75]$ and $b \in [0, 3]$
- D. $[a, b)$, where $a \in [-11.75, -6.75]$ and $b \in [0.29, 4.29]$
- E. None of the above.

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

$$-6 + 7x > 8x \text{ or } 8 + 8x < 11x$$

- A. $(-\infty, a) \cup (b, \infty)$, where $a \in [-3.67, -0.67]$ and $b \in [6, 9]$
- B. $(-\infty, a] \cup [b, \infty)$, where $a \in [-2.67, 3.33]$ and $b \in [4, 8]$
- C. $(-\infty, a) \cup (b, \infty)$, where $a \in [-8, -4]$ and $b \in [0.67, 3.67]$
- D. $(-\infty, a] \cup [b, \infty)$, where $a \in [-8, -4]$ and $b \in [-1.33, 3.67]$
- E. $(-\infty, \infty)$

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

$$4x - 10 \geq 10x - 5$$

- A. $[a, \infty)$, where $a \in [-0.5, 2.7]$
 - B. $[a, \infty)$, where $a \in [-2.7, 0.4]$
 - C. $(-\infty, a]$, where $a \in [0.7, 2.2]$
 - D. $(-\infty, a]$, where $a \in [-2.2, 0.8]$
 - E. None of the above.
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