

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

$$\frac{-8}{6} - \frac{6}{5}x \leq \frac{8}{7}x + \frac{8}{2}$$

- A. $(-\infty, a]$, where $a \in [0.28, 4.28]$
 - B. $(-\infty, a]$, where $a \in [-3.28, 0.72]$
 - C. $[a, \infty)$, where $a \in [-3.28, -1.28]$
 - D. $[a, \infty)$, where $a \in [0.28, 6.28]$
 - 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.

No less than 3 units from the number 7.

- A. $(4, 10)$
 - B. $(-\infty, 4) \cup (10, \infty)$
 - C. $(-\infty, 4] \cup [10, \infty)$
 - D. $[4, 10]$
 - 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 more than 10 units from the number 5.

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

E. None of the above

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

$$\frac{-6}{9} - \frac{8}{5}x > \frac{-4}{7}x - \frac{9}{4}$$

- A. $(-\infty, a)$, where $a \in [0.8, 3.9]$
 - B. (a, ∞) , where $a \in [-1.54, 0.46]$
 - C. $(-\infty, a)$, where $a \in [-3.7, -0.4]$
 - D. (a, ∞) , where $a \in [0.54, 3.54]$
 - 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.

$$7 + 4x \leq \frac{31x - 5}{4} < 7 + 7x$$

- A. $(a, b]$, where $a \in [1.2, 7.2]$ and $b \in [10, 14]$
 - B. $(-\infty, a) \cup [b, \infty)$, where $a \in [0.2, 7.2]$ and $b \in [11, 12]$
 - C. $[a, b)$, where $a \in [2.2, 3.2]$ and $b \in [10, 13]$
 - D. $(-\infty, a] \cup (b, \infty)$, where $a \in [-0.2, 3]$ and $b \in [11, 12]$
 - 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.

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

- A. $(-\infty, a] \cup [b, \infty)$, where $a \in [-5.67, 3.33]$ and $b \in [7, 8]$
- B. $(-\infty, a) \cup (b, \infty)$, where $a \in [-1.67, -0.67]$ and $b \in [4, 10]$

- C. $(-\infty, a] \cup [b, \infty)$, where $a \in [-8, -5]$ and $b \in [-4.33, 3.67]$
- D. $(-\infty, a) \cup (b, \infty)$, where $a \in [-8, -3]$ and $b \in [-1.33, 4.67]$
- E. $(-\infty, \infty)$

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

$$-8x + 3 \geq -3x + 8$$

- A. $(-\infty, a]$, where $a \in [-5.4, 0.9]$
- B. $[a, \infty)$, where $a \in [-2.2, -0.6]$
- C. $(-\infty, a]$, where $a \in [0.3, 1.2]$
- D. $[a, \infty)$, where $a \in [0, 4.1]$
- E. None of the above.

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

$$-6 - 3x \leq \frac{-10x - 4}{5} < 5 - 6x$$

- A. $(-\infty, a] \cup (b, \infty)$, where $a \in [-6.2, -4.2]$ and $b \in [0.45, 5.45]$
- B. $(a, b]$, where $a \in [-6.2, -4.2]$ and $b \in [1.1, 1.6]$
- C. $[a, b)$, where $a \in [-5.2, -3.2]$ and $b \in [1.45, 7.45]$
- D. $(-\infty, a) \cup [b, \infty)$, where $a \in [-7.2, -2.2]$ and $b \in [1.45, 3.45]$
- E. None of the above.

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

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

- A. $(-\infty, a] \cup [b, \infty)$, where $a \in [-7, -4]$ and $b \in [-0.33, 3.67]$
- B. $(-\infty, a) \cup (b, \infty)$, where $a \in [-7, -5]$ and $b \in [-0.33, 6.67]$
- C. $(-\infty, a) \cup (b, \infty)$, where $a \in [-1.67, -0.67]$ and $b \in [3, 12]$
- D. $(-\infty, a] \cup [b, \infty)$, where $a \in [-2.67, 0.33]$ and $b \in [7, 9]$
- E. $(-\infty, \infty)$

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

$$-3x - 7 \leq 10x - 6$$

- A. $[a, \infty)$, where $a \in [0.01, 0.23]$
 - B. $[a, \infty)$, where $a \in [-0.27, -0.03]$
 - C. $(-\infty, a]$, where $a \in [-0.32, 0.05]$
 - D. $(-\infty, a]$, where $a \in [-0.04, 0.5]$
 - E. None of the above.
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