

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

$$-5x + 4 \leq 4x - 10$$

- A. $(-\infty, a]$, where $a \in [0.56, 2.56]$
 - B. $[a, \infty)$, where $a \in [-3.4, -0.1]$
 - C. $[a, \infty)$, where $a \in [0.7, 4.6]$
 - D. $(-\infty, a]$, where $a \in [-11.56, 1.44]$
 - E. None of the above.
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2. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$\frac{3}{9} - \frac{4}{8}x \leq \frac{5}{5}x + \frac{9}{4}$$

- A. $(-\infty, a]$, where $a \in [-2.28, 0.72]$
 - B. $[a, \infty)$, where $a \in [-2.5, -1]$
 - C. $(-\infty, a]$, where $a \in [0.28, 4.28]$
 - D. $[a, \infty)$, where $a \in [-0.6, 1.5]$
 - E. None of the above.
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3. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

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

- A. (a, ∞) , where $a \in [-0.14, -0.02]$
- B. (a, ∞) , where $a \in [0.05, 0.17]$
- C. $(-\infty, a)$, where $a \in [-0.36, -0.06]$
- D. $(-\infty, a)$, where $a \in [-0.03, 0.41]$

E. None of the above.

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

$$7 - 9x < \frac{-20x + 4}{5} \leq 7 - 5x$$

- A. $(-\infty, a] \cup (b, \infty)$, where $a \in [-1.24, -0.24]$ and $b \in [-6.2, -5.2]$
B. $[a, b)$, where $a \in [-6.24, -0.24]$ and $b \in [-9.2, -5.2]$
C. $(-\infty, a) \cup [b, \infty)$, where $a \in [-2.6, 0.2]$ and $b \in [-9.2, -5.2]$
D. $(a, b]$, where $a \in [-1.7, 0.2]$ and $b \in [-8.2, -5.2]$
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.

$$\frac{-5}{9} - \frac{4}{8}x \leq \frac{4}{4}x + \frac{8}{3}$$

- A. $[a, \infty)$, where $a \in [-4.15, 1.85]$
B. $(-\infty, a]$, where $a \in [-2.15, -1.15]$
C. $[a, \infty)$, where $a \in [1.15, 6.15]$
D. $(-\infty, a]$, where $a \in [0.15, 5.15]$
E. None of the above.
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6. Using an interval or intervals, describe all the x -values within or including a distance of the given values.

More than 6 units from the number -3 .

- A. $(-9, 3)$
B. $[-9, 3]$

- C. $(-\infty, -9] \cup [3, \infty)$
 - D. $(-\infty, -9) \cup (3, \infty)$
 - E. None of the above
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7. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$-6 - 5x \leq \frac{-25x - 5}{6} < -7 - 6x$$

- A. $(a, b]$, where $a \in [-9.2, -1.2]$ and $b \in [-8.36, -2.36]$
 - B. $[a, b)$, where $a \in [-8.2, -4.2]$ and $b \in [-6.36, 2.64]$
 - C. $(-\infty, a) \cup [b, \infty)$, where $a \in [-6.2, -5.2]$ and $b \in [-8.36, 1.64]$
 - D. $(-\infty, a] \cup (b, \infty)$, where $a \in [-6.2, -4.2]$ and $b \in [-5.36, -1.36]$
 - E. None of the above.
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8. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$8 + 5x > 6x \text{ or } 9 + 4x < 5x$$

- A. $(-\infty, a] \cup [b, \infty)$, where $a \in [8, 11]$ and $b \in [6, 12]$
 - B. $(-\infty, a) \cup (b, \infty)$, where $a \in [-12, -6]$ and $b \in [-10, -6]$
 - C. $(-\infty, a] \cup [b, \infty)$, where $a \in [-10, -7]$ and $b \in [-9, -7]$
 - D. $(-\infty, a) \cup (b, \infty)$, where $a \in [6, 9]$ and $b \in [8, 13]$
 - E. $(-\infty, \infty)$
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9. Using an interval or intervals, describe all the x -values within or including a distance of the given values.

More than 3 units from the number 4.

- A. $[1, 7]$
 - B. $(-\infty, 1] \cup [7, \infty)$
 - C. $(-\infty, 1) \cup (7, \infty)$
 - D. $(1, 7)$
 - E. None of the above
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10. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$-8 + 7x > 9x \text{ or } 6 + 9x < 10x$$

- A. $(-\infty, a] \cup [b, \infty)$, where $a \in [-4.71, -3.7]$ and $b \in [5.3, 6.9]$
 - B. $(-\infty, a] \cup [b, \infty)$, where $a \in [-7.28, -5.67]$ and $b \in [2.8, 4.2]$
 - C. $(-\infty, a) \cup (b, \infty)$, where $a \in [-4.3, -3.4]$ and $b \in [5.6, 6.4]$
 - D. $(-\infty, a) \cup (b, \infty)$, where $a \in [-6.1, -5.6]$ and $b \in [2.4, 5.7]$
 - E. $(-\infty, \infty)$
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