

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

$$-10x - 3 < 8x + 5$$

- A. (a, ∞) , where $a \in [-0.12, 1.06]$
 - B. (a, ∞) , where $a \in [-0.47, 0.28]$
 - C. $(-\infty, a)$, where $a \in [0.16, 1.2]$
 - D. $(-\infty, a)$, where $a \in [-0.5, -0.11]$
 - 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 more than 2 units from the number -7 .

- A. $(-9, -5)$
 - B. $(-\infty, -9) \cup (-5, \infty)$
 - C. $(-\infty, -9] \cup [-5, \infty)$
 - D. $[-9, -5]$
 - 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.

$$-6 + 3x < \frac{38x + 3}{9} \leq 4 + 4x$$

- A. $[a, b)$, where $a \in [3.18, 6.18]$ and $b \in [-19.5, -15.5]$
- B. $(-\infty, a) \cup [b, \infty)$, where $a \in [4.18, 8.18]$ and $b \in [-16.5, -12.5]$
- C. $(a, b]$, where $a \in [3.18, 7.18]$ and $b \in [-16.5, -8.5]$
- D. $(-\infty, a] \cup (b, \infty)$, where $a \in [5.18, 11.18]$ and $b \in [-18.5, -14.5]$

E. None of the above.

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

$$\frac{-10}{2} - \frac{5}{8}x \geq \frac{10}{4}x - \frac{9}{6}$$

- A. $(-\infty, a]$, where $a \in [1.12, 3.12]$
B. $[a, \infty)$, where $a \in [-1.3, -0.4]$
C. $(-\infty, a]$, where $a \in [-3.12, -0.12]$
D. $[a, \infty)$, where $a \in [0.6, 1.9]$
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.

$$-7 + 7x > 8x \text{ or } 4 + 9x < 10x$$

- A. $(-\infty, a] \cup [b, \infty)$, where $a \in [-4, -1]$ and $b \in [6, 10]$
B. $(-\infty, a) \cup (b, \infty)$, where $a \in [-6, 0]$ and $b \in [4.4, 9.1]$
C. $(-\infty, a] \cup [b, \infty)$, where $a \in [-10, -5]$ and $b \in [4, 5]$
D. $(-\infty, a) \cup (b, \infty)$, where $a \in [-7, -6]$ and $b \in [2.5, 4.4]$
E. $(-\infty, \infty)$
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6. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$-9 + 9x > 10x \text{ or } 5 + 8x < 10x$$

- A. $(-\infty, a) \cup (b, \infty)$, where $a \in [-15, -7]$ and $b \in [2.5, 3.5]$
B. $(-\infty, a] \cup [b, \infty)$, where $a \in [-9, -8]$ and $b \in [2.5, 3.5]$

- C. $(-\infty, a] \cup [b, \infty)$, where $a \in [-4.5, 0.5]$ and $b \in [7, 10]$
 - D. $(-\infty, a) \cup (b, \infty)$, where $a \in [-3.5, 0.5]$ and $b \in [8, 14]$
 - E. $(-\infty, \infty)$
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7. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$-6 + 6x \leq \frac{28x + 8}{4} < 5 + 6x$$

- A. $(a, b]$, where $a \in [-8, -3]$ and $b \in [1, 7]$
 - B. $(-\infty, a) \cup [b, \infty)$, where $a \in [-8, -6]$ and $b \in [2, 6]$
 - C. $[a, b)$, where $a \in [-8, -7]$ and $b \in [-1, 7]$
 - D. $(-\infty, a] \cup (b, \infty)$, where $a \in [-11, -7]$ and $b \in [1, 4]$
 - E. None of the above.
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8. Using an interval or intervals, describe all the x -values within or including a distance of the given values.

More than 7 units from the number 10.

- A. $(-\infty, 3) \cup (17, \infty)$
 - B. $(3, 17)$
 - C. $[3, 17]$
 - D. $(-\infty, 3] \cup [17, \infty)$
 - E. None of the above
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9. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$\frac{-8}{9} + \frac{4}{4}x \leq \frac{5}{8}x - \frac{10}{2}$$

- A. $[a, \infty)$, where $a \in [8.96, 13.96]$
 - B. $(-\infty, a]$, where $a \in [-13.96, -6.96]$
 - C. $(-\infty, a]$, where $a \in [10.96, 11.96]$
 - D. $[a, \infty)$, where $a \in [-11.96, -8.96]$
 - 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.

$$-3x - 9 < 10x + 3$$

- A. (a, ∞) , where $a \in [-0.2, 3.1]$
 - B. $(-\infty, a)$, where $a \in [-2.5, 0]$
 - C. (a, ∞) , where $a \in [-2.3, 0.5]$
 - D. $(-\infty, a)$, where $a \in [0.8, 1.7]$
 - E. None of the above.
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