

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

$$-6 + 7x > 9x \text{ or } -3 + 9x < 12x$$

- A. $(-\infty, a) \cup (b, \infty)$, where $a \in [-1.9, 1.1]$ and $b \in [0, 5]$
 - B. $(-\infty, a) \cup (b, \infty)$, where $a \in [-3.8, -2.8]$ and $b \in [-5, 2]$
 - C. $(-\infty, a] \cup [b, \infty)$, where $a \in [0, 3]$ and $b \in [0.8, 4.4]$
 - D. $(-\infty, a] \cup [b, \infty)$, where $a \in [-4, -2]$ and $b \in [-1.8, -0.8]$
 - E. $(-\infty, \infty)$
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2. Using an interval or intervals, describe all the x -values within or including a distance of the given values.

Less than 5 units from the number 10.

- A. $(-\infty, 5) \cup (15, \infty)$
 - B. $(-\infty, 5] \cup [15, \infty)$
 - C. $[5, 15]$
 - D. $(5, 15)$
 - 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 5 units from the number 2.

- A. $[3, 7]$
- B. $(3, 7)$
- C. $(-\infty, 3] \cup [7, \infty)$
- D. $(-\infty, 3) \cup (7, \infty)$
- E. None of the above

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

$$6 - 7x < \frac{-23x - 8}{5} \leq 8 - 5x$$

- A. $(-\infty, a] \cup (b, \infty)$, where $a \in [-5.17, -2.17]$ and $b \in [-25, -19]$
B. $(-\infty, a) \cup [b, \infty)$, where $a \in [-5.17, -1.17]$ and $b \in [-24, -21]$
C. $(a, b]$, where $a \in [-7.17, 1.83]$ and $b \in [-25, -20]$
D. $[a, b)$, where $a \in [-7.17, 0.83]$ and $b \in [-24, -22]$
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.

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

- A. $[a, \infty)$, where $a \in [-58.5, -56.5]$
B. $[a, \infty)$, where $a \in [57.5, 61.5]$
C. $(-\infty, a]$, where $a \in [58.5, 61.5]$
D. $(-\infty, a]$, where $a \in [-61.5, -55.5]$
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.

$$-5 + 8x \leq \frac{36x + 5}{4} < 6 + 6x$$

- A. $(-\infty, a) \cup [b, \infty)$, where $a \in [6.25, 10.25]$ and $b \in [-2.2, -0.5]$
B. $[a, b)$, where $a \in [5.25, 7.25]$ and $b \in [-2.58, -0.58]$
C. $(a, b]$, where $a \in [5.25, 7.25]$ and $b \in [-5.58, 1.42]$

- D. $(-\infty, a] \cup (b, \infty)$, where $a \in [4.25, 11.25]$ and $b \in [-3.58, 1.42]$
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.

$$\frac{-10}{6} - \frac{9}{8}x \leq \frac{-6}{5}x - \frac{3}{3}$$

- A. $(-\infty, a]$, where $a \in [-8.89, -7.89]$
B. $(-\infty, a]$, where $a \in [6.89, 11.89]$
C. $[a, \infty)$, where $a \in [7.89, 10.89]$
D. $[a, \infty)$, where $a \in [-8.89, -6.89]$
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.

$$-5 + 6x > 9x \text{ or } 7 + 4x < 6x$$

- A. $(-\infty, a] \cup [b, \infty)$, where $a \in [-2.4, -1]$ and $b \in [2.57, 4.04]$
B. $(-\infty, a) \cup (b, \infty)$, where $a \in [-2.1, 1.7]$ and $b \in [2.5, 4.5]$
C. $(-\infty, a) \cup (b, \infty)$, where $a \in [-3.8, -2.9]$ and $b \in [-1.33, 2.67]$
D. $(-\infty, a] \cup [b, \infty)$, where $a \in [-5.7, -3]$ and $b \in [1.56, 1.85]$
E. $(-\infty, \infty)$
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9. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$-9x - 10 > -6x + 5$$

- A. $(-\infty, a)$, where $a \in [-5, 1]$

- B. (a, ∞) , where $a \in [-7, -3]$
 - C. $(-\infty, a)$, where $a \in [-1, 8]$
 - D. (a, ∞) , where $a \in [5, 9]$
 - 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.

$$-7x - 7 < -5x + 6$$

- A. $(-\infty, a)$, where $a \in [-11.5, -3.5]$
 - B. $(-\infty, a)$, where $a \in [4.5, 11.5]$
 - C. (a, ∞) , where $a \in [-11.5, -1.5]$
 - D. (a, ∞) , where $a \in [6.5, 9.5]$
 - E. None of the above.
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