

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

$$\frac{-5}{5} - \frac{7}{3}x > \frac{4}{7}x - \frac{8}{2}$$

- A. $(-\infty, a)$, where $a \in [-1.2, 0.4]$
 - B. (a, ∞) , where $a \in [-3.03, -0.03]$
 - C. $(-\infty, a)$, where $a \in [-0.8, 2.8]$
 - D. (a, ∞) , where $a \in [-0.97, 2.03]$
 - 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.

$$-4 - 8x \leq \frac{-27x + 9}{8} < 4 - 4x$$

- A. $(-\infty, a) \cup [b, \infty)$, where $a \in [-0.1, 1.3]$ and $b \in [-4.6, -0.6]$
 - B. $[a, b)$, where $a \in [-0.7, 3.7]$ and $b \in [-4.6, -0.6]$
 - C. $(a, b]$, where $a \in [0.11, 6.11]$ and $b \in [-4.6, -2.6]$
 - D. $(-\infty, a] \cup (b, \infty)$, where $a \in [0.11, 7.11]$ and $b \in [-4.6, -3.6]$
 - 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.

$$6 + 5x \leq \frac{26x + 4}{4} < 9 + 6x$$

- A. $(-\infty, a) \cup [b, \infty)$, where $a \in [3.33, 4.33]$ and $b \in [12, 17]$
- B. $(a, b]$, where $a \in [1.33, 4.33]$ and $b \in [16, 17]$
- C. $[a, b)$, where $a \in [2.33, 6.33]$ and $b \in [15, 21]$
- D. $(-\infty, a] \cup (b, \infty)$, where $a \in [2.33, 9.33]$ and $b \in [15, 18]$

E. None of the above.

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

$$\frac{10}{7} - \frac{7}{4}x \leq \frac{-3}{3}x - \frac{8}{5}$$

- A. $[a, \infty)$, where $a \in [0.04, 8.04]$
B. $(-\infty, a]$, where $a \in [1.04, 5.04]$
C. $[a, \infty)$, where $a \in [-5.04, -3.04]$
D. $(-\infty, a]$, where $a \in [-12.04, -2.04]$
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.

$$6x - 9 < 10x + 6$$

- A. $(-\infty, a)$, where $a \in [-7.75, -0.75]$
B. (a, ∞) , where $a \in [1.75, 6.75]$
C. (a, ∞) , where $a \in [-6.75, -0.75]$
D. $(-\infty, a)$, where $a \in [-2.25, 7.75]$
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.

$$-6 + 9x > 10x \text{ or } 3 + 7x < 10x$$

- A. $(-\infty, a] \cup [b, \infty)$, where $a \in [-2, 0]$ and $b \in [4, 8]$
B. $(-\infty, a] \cup [b, \infty)$, where $a \in [-7, -2]$ and $b \in [1, 3]$

- C. $(-\infty, a) \cup (b, \infty)$, where $a \in [-8, -4]$ and $b \in [-5, 4]$
 - D. $(-\infty, a) \cup (b, \infty)$, where $a \in [-3, 2]$ and $b \in [4, 9]$
 - E. $(-\infty, \infty)$
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7. Using an interval or intervals, describe all the x -values within or including a distance of the given values.

No more than 9 units from the number -9 .

- A. $(-\infty, -18] \cup [0, \infty)$
 - B. $(-18, 0)$
 - C. $[-18, 0]$
 - D. $(-\infty, -18) \cup (0, \infty)$
 - 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.

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

- A. $(-\infty, a] \cup [b, \infty)$, where $a \in [-9, -7]$ and $b \in [5.7, 7.9]$
 - B. $(-\infty, a] \cup [b, \infty)$, where $a \in [-7, -4]$ and $b \in [8.7, 9.6]$
 - C. $(-\infty, a) \cup (b, \infty)$, where $a \in [-8, -3]$ and $b \in [9, 13]$
 - D. $(-\infty, a) \cup (b, \infty)$, where $a \in [-9, -7]$ and $b \in [6, 7]$
 - 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.

No more than 5 units from the number 3.

- A. $(-2, 8)$

- B. $[-2, 8]$
 - C. $(-\infty, -2] \cup [8, \infty)$
 - D. $(-\infty, -2) \cup (8, \infty)$
 - 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.

$$-10x - 7 \geq -6x + 5$$

- A. $(-\infty, a]$, where $a \in [2, 5]$
 - B. $(-\infty, a]$, where $a \in [-3, -1]$
 - C. $[a, \infty)$, where $a \in [-4, 0]$
 - D. $[a, \infty)$, where $a \in [1, 4]$
 - E. None of the above.
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