

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

$$-6x + 3 \leq 8x - 7$$

- A. $[a, \infty)$, where $a \in [-0.6, 0.94]$
 - B. $(-\infty, a]$, where $a \in [-5.71, 0.29]$
 - C. $[a, \infty)$, where $a \in [-1.54, -0.24]$
 - D. $(-\infty, a]$, where $a \in [0.71, 1.71]$
 - 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.

$$-5x - 6 \leq 10x - 3$$

- A. $[a, \infty)$, where $a \in [-0.64, -0.18]$
 - B. $(-\infty, a]$, where $a \in [-0.82, 0.04]$
 - C. $[a, \infty)$, where $a \in [-0.1, 0.68]$
 - D. $(-\infty, a]$, where $a \in [0.02, 0.52]$
 - 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.

$$-9 + 8x > 10x \text{ or } -8 + 8x < 11x$$

- A. $(-\infty, a) \cup (b, \infty)$, where $a \in [0.67, 3.67]$ and $b \in [1.5, 6.5]$
- B. $(-\infty, a) \cup (b, \infty)$, where $a \in [-6.5, -2.5]$ and $b \in [-8.67, 0.33]$
- C. $(-\infty, a] \cup [b, \infty)$, where $a \in [-4.5, -3.5]$ and $b \in [-2.67, 1.33]$
- D. $(-\infty, a] \cup [b, \infty)$, where $a \in [1.67, 4.67]$ and $b \in [3.5, 5.5]$
- E. $(-\infty, \infty)$

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

$$6 - 8x < \frac{-43x + 8}{6} \leq 8 - 8x$$

- A. $(-\infty, a] \cup (b, \infty)$, where $a \in [5.6, 7.6]$ and $b \in [5, 12]$
B. $(a, b]$, where $a \in [2.6, 7.6]$ and $b \in [8, 10]$
C. $[a, b)$, where $a \in [-0.4, 7.6]$ and $b \in [5, 10]$
D. $(-\infty, a) \cup [b, \infty)$, where $a \in [2.6, 6.6]$ and $b \in [8, 9]$
E. None of the above.
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5. Using an interval or intervals, describe all the x -values within or including a distance of the given values.

No more than 6 units from the number -1 .

- A. $[-7, 5]$
B. $(-\infty, -7) \cup (5, \infty)$
C. $(-\infty, -7] \cup [5, \infty)$
D. $(-7, 5)$
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.

No more than 7 units from the number -8 .

- A. $[-15, -1]$
B. $(-15, -1)$
C. $(-\infty, -15] \cup [-1, \infty)$

D. $(-\infty, -15) \cup (-1, \infty)$

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.

$$-8 + 3x > 5x \text{ or } -6 + 6x < 9x$$

A. $(-\infty, a] \cup [b, \infty)$, where $a \in [-6, -2]$ and $b \in [-7, 0]$

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

C. $(-\infty, a) \cup (b, \infty)$, where $a \in [-4, -2]$ and $b \in [-5, 3]$

D. $(-\infty, a] \cup [b, \infty)$, where $a \in [-2, 3]$ and $b \in [3, 10]$

E. $(-\infty, \infty)$

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

$$\frac{-4}{2} + \frac{5}{3}x \leq \frac{7}{6}x + \frac{4}{9}$$

A. $(-\infty, a]$, where $a \in [-7.89, -0.89]$

B. $[a, \infty)$, where $a \in [-7.89, -3.89]$

C. $[a, \infty)$, where $a \in [2.89, 5.89]$

D. $(-\infty, a]$, where $a \in [3.89, 5.89]$

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.

$$-4 + 8x \leq \frac{68x + 6}{8} < 8 + 6x$$

A. $(-\infty, a) \cup [b, \infty)$, where $a \in [7.5, 12.5]$ and $b \in [-4.9, 0.1]$

- B. $(-\infty, a] \cup (b, \infty)$, where $a \in [8.5, 10.5]$ and $b \in [-4.9, -1.9]$
 - C. $[a, b)$, where $a \in [6.5, 10.5]$ and $b \in [-2.9, -1.9]$
 - D. $(a, b]$, where $a \in [9.5, 16.5]$ and $b \in [-3.9, 2.1]$
 - 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.

$$\frac{-7}{2} - \frac{5}{3}x \leq \frac{3}{6}x + \frac{3}{4}$$

- A. $(-\infty, a]$, where $a \in [1.96, 5.96]$
 - B. $[a, \infty)$, where $a \in [0.96, 4.96]$
 - C. $[a, \infty)$, where $a \in [-2.96, -0.96]$
 - D. $(-\infty, a]$, where $a \in [-2.96, -0.96]$
 - E. None of the above.
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