

1. Using an interval or intervals, describe all the x -values within or including a distance of the given values.

No more than 4 units from the number -10 .

- A. $[-14, -6]$
 - B. $(-\infty, -14) \cup (-6, \infty)$
 - C. $(-14, -6)$
 - D. $(-\infty, -14] \cup [-6, \infty)$
 - 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.

$$\frac{9}{3} - \frac{6}{2}x \geq \frac{-3}{8}x - \frac{10}{6}$$

- A. $(-\infty, a]$, where $a \in [-5.25, -0.75]$
 - B. $[a, \infty)$, where $a \in [-6.75, -0.75]$
 - C. $(-\infty, a]$, where $a \in [0.75, 3]$
 - D. $[a, \infty)$, where $a \in [0, 2.25]$
 - 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.

$$-4 - 4x \leq \frac{-18x - 8}{5} < 7 - 6x$$

- A. $(-\infty, a] \cup (b, \infty)$, where $a \in [3.75, 8.25]$ and $b \in [-11.25, -3]$
- B. $(a, b]$, where $a \in [3, 10.5]$ and $b \in [-6, -3]$
- C. $[a, b)$, where $a \in [3.75, 9.75]$ and $b \in [-5.25, -0.75]$
- D. $(-\infty, a) \cup [b, \infty)$, where $a \in [1.5, 8.25]$ and $b \in [-7.5, 0.75]$

E. None of the above.

4. Using an interval or intervals, describe all the x -values within or including a distance of the given values.

Less than 9 units from the number 2.

- A. $(7, 11)$
 - B. $[7, 11]$
 - C. $(-\infty, 7] \cup [11, \infty)$
 - D. $(-\infty, 7) \cup (11, \infty)$
 - 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.

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

- A. $(-\infty, a]$, where $a \in [-278.25, -273.75]$
 - B. $[a, \infty)$, where $a \in [-276.75, -275.25]$
 - C. $[a, \infty)$, where $a \in [274.5, 276.75]$
 - D. $(-\infty, a]$, where $a \in [273, 276.75]$
 - 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.

$$-8x - 4 \geq 6x - 9$$

- A. $[a, \infty)$, where $a \in [0, 0.8]$
- B. $(-\infty, a]$, where $a \in [-0.19, 0.76]$

- C. $(-\infty, a]$, where $a \in [-0.96, 0.18]$
 - D. $[a, \infty)$, where $a \in [-0.9, -0.1]$
 - 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.

$$-8 + 9x > 10x \text{ or } 3 + 9x < 10x$$

- A. $(-\infty, a] \cup [b, \infty)$, where $a \in [-12, -7.5]$ and $b \in [2.25, 6]$
 - B. $(-\infty, a) \cup (b, \infty)$, where $a \in [-10.5, -7.5]$ and $b \in [1.5, 6.75]$
 - C. $(-\infty, a] \cup [b, \infty)$, where $a \in [-6, 0.75]$ and $b \in [5.25, 12]$
 - D. $(-\infty, a) \cup (b, \infty)$, where $a \in [-3.75, -0.75]$ and $b \in [3.75, 8.25]$
 - 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.

$$-6 - 6x < \frac{-28x + 4}{5} \leq 6 - 9x$$

- A. $(-\infty, a) \cup [b, \infty)$, where $a \in [15.75, 20.25]$ and $b \in [-3.75, 0.75]$
 - B. $(-\infty, a] \cup (b, \infty)$, where $a \in [14.25, 21]$ and $b \in [-3, -0.75]$
 - C. $[a, b)$, where $a \in [12.75, 18.75]$ and $b \in [-4.5, 1.5]$
 - D. $(a, b]$, where $a \in [11.25, 18.75]$ and $b \in [-3.82, -1.27]$
 - 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.

$$-8x - 4 \geq -4x + 10$$

- A. $[a, \infty)$, where $a \in [3.5, 4.5]$
 - B. $(-\infty, a]$, where $a \in [-3.5, 1.5]$
 - C. $(-\infty, a]$, where $a \in [-2.5, 5.5]$
 - D. $[a, \infty)$, where $a \in [-8.5, -0.5]$
 - 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.

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

- A. $(-\infty, a) \cup (b, \infty)$, where $a \in [0, 4.5]$ and $b \in [6.75, 14.25]$
 - B. $(-\infty, a] \cup [b, \infty)$, where $a \in [-11.25, -8.25]$ and $b \in [-9, 1.5]$
 - C. $(-\infty, a) \cup (b, \infty)$, where $a \in [-12.75, -8.25]$ and $b \in [-6, -0.75]$
 - D. $(-\infty, a] \cup [b, \infty)$, where $a \in [-2.25, 9]$ and $b \in [3.75, 11.25]$
 - E. $(-\infty, \infty)$
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