

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

$$\frac{3}{2} + \frac{3}{9}x > \frac{8}{7}x - \frac{5}{3}$$

- A. $(-\infty, a)$, where $a \in [2, 7]$
 - B. $(-\infty, a)$, where $a \in [-5, -3]$
 - C. (a, ∞) , where $a \in [-5, -1]$
 - D. (a, ∞) , where $a \in [0, 4]$
 - 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.

$$-7 - 4x \leq \frac{-23x + 9}{7} < -8 - 7x$$

- A. $[a, b)$, where $a \in [11, 14]$ and $b \in [0, 5]$
 - B. $(-\infty, a) \cup [b, \infty)$, where $a \in [9, 14]$ and $b \in [-2, 5]$
 - C. $(-\infty, a] \cup (b, \infty)$, where $a \in [9, 19]$ and $b \in [2, 6]$
 - D. $(a, b]$, where $a \in [10, 13]$ and $b \in [2, 4]$
 - 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.

$$-5 + 9x > 10x \text{ or } -8 + 3x < 6x$$

- A. $(-\infty, a] \cup [b, \infty)$, where $a \in [0, 6]$ and $b \in [2, 9]$
- B. $(-\infty, a) \cup (b, \infty)$, where $a \in [-8, -3]$ and $b \in [-5, 0]$
- C. $(-\infty, a) \cup (b, \infty)$, where $a \in [1, 4]$ and $b \in [0, 8]$

- D. $(-\infty, a] \cup [b, \infty)$, where $a \in [-7, -3]$ and $b \in [-4, 1]$
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.

$$-10x - 3 \leq -8x - 5$$

- A. $[a, \infty)$, where $a \in [-3.1, -0.8]$
B. $(-\infty, a]$, where $a \in [-0.3, 2.5]$
C. $(-\infty, a]$, where $a \in [-1.4, -0.6]$
D. $[a, \infty)$, where $a \in [0.4, 3]$
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.

More than 10 units from the number 1.

- A. $(9, 11)$
B. $(-\infty, 9] \cup [11, \infty)$
C. $(-\infty, 9) \cup (11, \infty)$
D. $[9, 11]$
E. None of the above
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