

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

$$\frac{-6}{6} + \frac{4}{8}x \geq \frac{10}{7}x + \frac{4}{3}$$

- A. $(-\infty, a]$, where $a \in [-1, 9]$
 - B. $(-\infty, a]$, where $a \in [-7, 2]$
 - C. $[a, \infty)$, where $a \in [-5, -2]$
 - D. $[a, \infty)$, where $a \in [1, 5]$
 - E. None of the above.
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2. Using an interval or intervals, describe all the x -values within or including a distance of the given values.

More than 4 units from the number 5.

- A. $(1, 9)$
 - B. $[1, 9]$
 - C. $(-\infty, 1] \cup [9, \infty)$
 - D. $(-\infty, 1) \cup (9, \infty)$
 - 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.

$$-6x + 9 > 7x - 10$$

- A. (a, ∞) , where $a \in [0, 5]$
- B. $(-\infty, a)$, where $a \in [0.5, 1.7]$
- C. (a, ∞) , where $a \in [-3, 1]$

- D. $(-\infty, a)$, where $a \in [-2.5, -1.1]$
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.

$$-4 + 5x > 8x \text{ or } 9 + 8x < 11x$$

- A. $(-\infty, a] \cup [b, \infty)$, where $a \in [-4.1, -2]$ and $b \in [0.6, 2.5]$
B. $(-\infty, a) \cup (b, \infty)$, where $a \in [-2.9, 0]$ and $b \in [1.6, 4.2]$
C. $(-\infty, a) \cup (b, \infty)$, where $a \in [-4.1, -1.7]$ and $b \in [0.4, 1.7]$
D. $(-\infty, a] \cup [b, \infty)$, where $a \in [-2.1, -0.4]$ and $b \in [1.8, 6.6]$
E. $(-\infty, \infty)$
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5. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$7 - 5x < \frac{23x - 9}{7} \leq 8 + 3x$$

- A. $(a, b]$, where $a \in [-2.9, -0.4]$ and $b \in [-38, -31]$
B. $(-\infty, a] \cup (b, \infty)$, where $a \in [-1.9, -0.9]$ and $b \in [-35, -28]$
C. $[a, b)$, where $a \in [-2.7, -0.4]$ and $b \in [-38, -32]$
D. $(-\infty, a) \cup [b, \infty)$, where $a \in [-3.2, -0.5]$ and $b \in [-34, -31]$
E. None of the above.
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