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

$$-8 + 9x > 11x \text{ or } -8 - 3x < 5x$$

A. $(-\infty, a) \cup (b, \infty)$, where $a \in [1, 4]$ and $b \in [4, 9]$

B. $(-\infty, a] \cup [b, \infty)$, where $a \in [-2, 4]$ and $b \in [0, 6]$

C. $(-\infty, a) \cup (b, \infty)$, where $a \in [-4, -2]$ and $b \in [-1, 1]$

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

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

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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 6.

A. $(-2, 10)$

B. $(-\infty, -2] \cup [10, \infty)$

C. $(-\infty, -2) \cup (10, \infty)$

D. $[-2, 10]$

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.

$$-3x + 9 \leq 7x - 4$$

A. $[a, \infty)$, where $a \in [-0.7, 5.3]$

B. $(-\infty, a]$, where $a \in [-1.6, -1.2]$

C. $(-\infty, a]$, where $a \in [-0.7, 4.4]$

D. $[a, \infty)$, where $a \in [-8.3, -0.3]$

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 3 units from the number 8.

    A. $(-\infty, 5] \cup [11, \infty)$

    B. $(-\infty, 5) \cup (11, \infty)$

    C. $[5, 11]$

    D. $(5, 11)$

    E. None of the above

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

$$\frac{4}{7} - \frac{8}{3}x \geq \frac{-4}{9}x - \frac{9}{2}$$

    A. $[a, \infty)$, where $a \in [1.28, 6.28]$

    B. $(-\infty, a]$, where $a \in [-4.28, 0.72]$

    C. $[a, \infty)$, where $a \in [-3.28, -1.28]$

    D. $(-\infty, a]$, where $a \in [2.28, 3.28]$

    E. None of the above.

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

$$9 - 3x > 6x \text{ or } 8 + 7x < 10x$$

    A. $(-\infty, a) \cup (b, \infty)$, where $a \in [1, 3]$ and $b \in [0.67, 4.67]$

    B. $(-\infty, a] \cup [b, \infty)$, where $a \in [-5.67, 0.33]$ and $b \in [-3, 2]$

    C. $(-\infty, a) \cup (b, \infty)$, where $a \in [-2.67, -1.67]$ and $b \in [-2, 1]$

D. $(-\infty, a] \cup [b, \infty)$, where $a \in [0, 3]$ and $b \in [0.67, 5.67]$

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

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

$$\frac{-10}{2} - \frac{9}{4}x > \frac{-6}{7}x - \frac{8}{6}$$

A. (a, ∞), where $a \in [-3.63, -1.63]$

B. $(-\infty, a)$, where $a \in [2.63, 6.63]$

C. $(-\infty, a)$, where $a \in [-4.63, -0.63]$

D. (a, ∞), where $a \in [1.63, 4.63]$

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.

$$-10x - 9 \geq -5x + 8$$

A. $(-\infty, a]$, where $a \in [-3.4, -0.4]$

B. $[a, \infty)$, where $a \in [0.4, 4.4]$

C. $(-\infty, a]$, where $a \in [2.4, 10.4]$

D. $[a, \infty)$, where $a \in [-11.4, -0.4]$

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.

$$-4 - 8x \leq \frac{-22x + 4}{4} < 6 - 6x$$

A. $(a, b]$, where $a \in [-4, 0]$ and $b \in [10, 12]$

B. $(-\infty, a) \cup [b, \infty)$, where $a \in [-4, 0]$ and $b \in [9, 13]$

C. $[a, b)$, where $a \in [-4, 1]$ and $b \in [6, 12]$

D. $(-\infty, a] \cup (b, \infty)$, where $a \in [-3, 1]$ and $b \in [5, 11]$

E. None of the above.

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

$$4 + 6x \le \frac{44x - 4}{6} < 7 + 7x$$

A. $(-\infty, a] \cup (b, \infty)$, where $a \in [-4.5, -0.5]$ and $b \in [-27, -22]$

B. $(-\infty, a) \cup [b, \infty)$, where $a \in [-6.5, -2.5]$ and $b \in [-26, -21]$

C. $(a, b]$, where $a \in [-7.5, -2.5]$ and $b \in [-23, -22]$

D. $[a, b)$, where $a \in [-3.5, 0.5]$ and $b \in [-24, -21]$

E. None of the above.