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

$$-9 + 6x > 7x \text{ or } -8 + 3x < 5x$$

   A. $(-\infty, a] \cup [b, \infty)$, where $a \in [-14, -6]$ and $b \in [-4, -3]$

   B. $(-\infty, a) \cup (b, \infty)$, where $a \in [-10, -5]$ and $b \in [-4, -2]$

   C. $(-\infty, a] \cup [b, \infty)$, where $a \in [3, 6]$ and $b \in [9, 13]$

   D. $(-\infty, a) \cup (b, \infty)$, where $a \in [4, 6]$ and $b \in [7, 13]$

   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.

No less than 7 units from the number 1.

   A. $(-\infty, 6) \cup (8, \infty)$

   B. $(6, 8)$

   C. $(-\infty, 6] \cup [8, \infty)$

   D. $[6, 8]$

   E. None of the above

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

Less than 2 units from the number 10.

   A. $(-\infty, 8) \cup (12, \infty)$

   B. $[8, 12]$

   C. $(8, 12)$

   D. $(-\infty, 8] \cup [12, \infty)$

   E. None of the above

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

$$-5 - 8x < \frac{-44x - 5}{6} \leq 4 - 8x$$

A. $(-\infty, a) \cup [b, \infty)$, where $a \in [-7.25, -5.25]$ and $b \in [6.25, 9.25]$

B. $(a, b]$, where $a \in [-6.25, -5.25]$ and $b \in [4.25, 12.25]$

C. $(-\infty, a] \cup (b, \infty)$, where $a \in [-8.25, -1.25]$ and $b \in [5.25, 13.25]$

D. $[a, b)$, where $a \in [-6.25, -2.25]$ and $b \in [6.25, 10.25]$

E. None of the above.

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

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

A. $(-\infty, a)$, where $a \in [-0.6, 2.2]$

B. $(-\infty, a)$, where $a \in [-1.5, -0.6]$

C. (a, ∞), where $a \in [-1.6, -0.3]$

D. (a, ∞), where $a \in [0.8, 1.9]$

E. None of the above.

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

$$-7 + 8x < \frac{76x - 6}{9} \leq 4 + 7x$$

A. $(-\infty, a) \cup [b, \infty)$, where $a \in [-19.25, -7.25]$ and $b \in [3.23, 8.23]$

B. $(a, b]$, where $a \in [-18.25, -12.25]$ and $b \in [3.23, 5.23]$

C. $(-\infty, a] \cup (b, \infty)$, where $a \in [-14.25, -13.25]$ and $b \in [2.23, 5.23]$

D. $[a, b)$, where $a \in [-18.25, -11.25]$ and $b \in [0.23, 4.23]$

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.

$$\frac{-10}{2} - \frac{6}{8}x \leq \frac{10}{4}x + \frac{8}{3}$$

A. $(-\infty, a]$, where $a \in [-0.64, 5.36]$

B. $[a, \infty)$, where $a \in [-6.36, 0.64]$

C. $[a, \infty)$, where $a \in [1.36, 3.36]$

D. $(-\infty, a]$, where $a \in [-5.36, 0.64]$

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.

$$-8 + 8x > 9x \text{ or } -7 - 3x < 4x$$

A. $(-\infty, a) \cup (b, \infty)$, where $a \in [-11, -7]$ and $b \in [-8, 2]$

B. $(-\infty, a] \cup [b, \infty)$, where $a \in [-11, -6]$ and $b \in [-1, 1]$

C. $(-\infty, a] \cup [b, \infty)$, where $a \in [-1, 2]$ and $b \in [7, 14]$

D. $(-\infty, a) \cup (b, \infty)$, where $a \in [-1, 2]$ and $b \in [6, 14]$

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

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

$$-4x + 9 < 3x - 3$$

A. $(-\infty, a)$, where $a \in [-1.29, 6.71]$

B. $(-\infty, a)$, where $a \in [-3.71, 1.29]$

C. (a, ∞), where $a \in [-0.29, 6.71]$

D. (a, ∞), where $a \in [-2.71, -0.71]$

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.

$$-5x - 3 \leq 5x + 7$$

A. $(-\infty, a]$, where $a \in [-0.1, 1.1]$

B. $(-\infty, a]$, where $a \in [-4.2, 0.8]$

C. $[a, \infty)$, where $a \in [-1, 0]$

D. $[a, \infty)$, where $a \in [1, 2]$

E. None of the above.
