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

$$\frac{10}{3} - \frac{10}{7}x \geq \frac{-3}{2}x + \frac{7}{5}$$

A. $(-\infty, a]$, where $a \in [-30.07, -26.07]$

B. $[a, \infty)$, where $a \in [-28.07, -25.07]$

C. $(-\infty, a]$, where $a \in [26.07, 30.07]$

D. $[a, \infty)$, where $a \in [25.07, 29.07]$

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.

Less than 3 units from the number -3.

A. $(-\infty, -6) \cup (0, \infty)$

B. $(-\infty, -6] \cup [0, \infty)$

C. $(-6, 0)$

D. $[-6, 0]$

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.

No less than 2 units from the number -3.

A. $(-\infty, -5) \cup (-1, \infty)$

B. $(-\infty, -5] \cup [-1, \infty)$

C. $[-5, -1]$

D. $(-5, -1)$

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.

$$\frac{3}{4} + \frac{3}{5}x \geq \frac{6}{8}x - \frac{9}{6}$$

A. $(-\infty, a]$, where $a \in [-15, -12]$

B. $[a, \infty)$, where $a \in [12, 16]$

C. $(-\infty, a]$, where $a \in [15, 17]$

D. $[a, \infty)$, where $a \in [-15, -14]$

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.

$$-4 - 6x < \frac{-46x + 5}{8} \leq -9 - 7x$$

A. $(-\infty, a) \cup [b, \infty)$, where $a \in [-20.5, -14.5]$ and $b \in [-8.7, -3.7]$

B. $(a, b]$, where $a \in [-21.5, -15.5]$ and $b \in [-10.7, -6.7]$

C. $(-\infty, a] \cup (b, \infty)$, where $a \in [-20.5, -14.5]$ and $b \in [-9.7, -3.7]$

D. $[a, b)$, where $a \in [-19.5, -17.5]$ and $b \in [-7.7, -6.7]$

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.

$$-4 + 5x > 8x \text{ or } 4 + 5x < 6x$$

A. $(-\infty, a] \cup [b, \infty)$, where $a \in [-5, -2]$ and $b \in [1.3, 2.7]$

B. $(-\infty, a] \cup [b, \infty)$, where $a \in [-3.33, 1.67]$ and $b \in [3.5, 4.8]$

C. $(-\infty, a) \cup (b, \infty)$, where $a \in [-6.5, -2.8]$ and $b \in [-0.3, 2.8]$

D. $(-\infty, a) \cup (b, \infty)$, where $a \in [-2.7, -0.6]$ and $b \in [3.3, 4.2]$

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.

$$-4x - 9 < 3x + 5$$

A. (a, ∞), where $a \in [-6, 0]$

B. (a, ∞), where $a \in [1, 5]$

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

D. $(-\infty, a)$, where $a \in [2, 6]$

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.

$$7 + 3x < \frac{77x + 3}{9} \leq 3 + 8x$$

A. $[a, b)$, where $a \in [0.4, 3]$ and $b \in [4.8, 9.8]$

B. $(-\infty, a] \cup (b, \infty)$, where $a \in [-0.5, 2.7]$ and $b \in [0.8, 5.8]$

C. $(a, b]$, where $a \in [0.2, 5.2]$ and $b \in [3.8, 8.8]$

D. $(-\infty, a) \cup [b, \infty)$, where $a \in [0.2, 2.2]$ and $b \in [4.8, 6.8]$

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.

$$-8 + 3x > 6x \text{ or } 9 - 3x < 4x$$

A. $(-\infty, a] \cup [b, \infty)$, where $a \in [-3.3, -2]$ and $b \in [1.15, 1.68]$

B. $(-\infty, a) \cup (b, \infty)$, where $a \in [-2.62, -1.01]$ and $b \in [2.5, 3.7]$

C. $(-\infty, a] \cup [b, \infty)$, where $a \in [-1.5, -1.1]$ and $b \in [2.64, 3.13]$

D. $(-\infty, a) \cup (b, \infty)$, where $a \in [-2.68, -1.33]$ and $b \in [0.8, 1.7]$

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

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

$$-6x - 5 > 10x - 10$$

A. (a, ∞), where $a \in [-1.14, -0.05]$

B. $(-\infty, a)$, where $a \in [0.26, 0.9]$

C. $(-\infty, a)$, where $a \in [-1.95, 0.11]$

D. (a, ∞), where $a \in [0.25, 0.38]$

E. None of the above.
