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

$$-7 + 5x < \frac{17x - 4}{3} \leq -8 + 3x$$

A. $(-\infty, a) \cup [b, \infty)$, where $a \in [-9.75, -2.25]$ and $b \in [-4.5, -1.5]$

B. $(a, b]$, where $a \in [-12, -8.25]$ and $b \in [-6, 2.25]$

C. $[a, b)$, where $a \in [-9, -1.5]$ and $b \in [-8.25, -2.25]$

D. $(-\infty, a] \cup (b, \infty)$, where $a \in [-11.25, -5.25]$ and $b \in [-7.5, 0]$

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.

No more than 5 units from the number 1.

A. $[-4, 6]$

B. $(-4, 6)$

C. $(-\infty, -4) \cup (6, \infty)$

D. $(-\infty, -4] \cup [6, \infty)$

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.

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

A. $(-\infty, a]$, where $a \in [-3, 0.75]$

B. $(-\infty, a]$, where $a \in [-0.75, 5.25]$

C. $[a, \infty)$, where $a \in [-0.75, 5.25]$

D. $[a, \infty)$, where $a \in [-3, 0]$

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.

$$-6 + 8x \leq \frac{39x + 9}{4} < 8 + 9x$$

A. $(-\infty, a] \cup (b, \infty)$, where $a \in [3, 9]$ and $b \in [-11.25, -2.25]$

B. $(-\infty, a) \cup [b, \infty)$, where $a \in [4.5, 8.25]$ and $b \in [-8.25, -6]$

C. $[a, b)$, where $a \in [3.75, 5.25]$ and $b \in [-9.75, -1.5]$

D. $(a, b]$, where $a \in [2.25, 6.75]$ and $b \in [-9.75, -4.5]$

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.

No more than 4 units from the number 2.

A. $(-\infty, -2] \cup [6, \infty)$

B. $(-\infty, -2) \cup (6, \infty)$

C. $[-2, 6]$

D. $(-2, 6)$

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.

$$-3 + 6x > 8x \text{ or } 8 + 9x < 11x$$

A. $(-\infty, a) \cup (b, \infty)$, where $a \in [-2.25, 0.75]$ and $b \in [3.52, 6]$

B. $(-\infty, a] \cup [b, \infty)$, where $a \in [-2.02, 0.67]$ and $b \in [3, 7.5]$

C. $(-\infty, a) \cup (b, \infty)$, where $a \in [-6, -3.75]$ and $b \in [0.9, 3.9]$

D. $(-\infty, a] \cup [b, \infty)$, where $a \in [-4.65, -3.67]$ and $b \in [0.75, 3.75]$

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.

$$-7 + 4x > 5x \text{ or } 3 + 3x < 5x$$

A. $(-\infty, a) \cup (b, \infty)$, where $a \in [-8.25, -3]$ and $b \in [0, 2.25]$

B. $(-\infty, a) \cup (b, \infty)$, where $a \in [-2.25, 1.5]$ and $b \in [4.5, 10.5]$

C. $(-\infty, a] \cup [b, \infty)$, where $a \in [-9.75, -6.75]$ and $b \in [-4.5, 3]$

D. $(-\infty, a] \cup [b, \infty)$, where $a \in [-3, 1.5]$ and $b \in [6, 12]$

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

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

$$-7x + 10 > -4x - 4$$

A. (a, ∞), where $a \in [2.67, 10.67]$

B. (a, ∞), where $a \in [-6.67, -0.67]$

C. $(-\infty, a)$, where $a \in [1.67, 5.67]$

D. $(-\infty, a)$, where $a \in [-4.67, 1.33]$

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.

$$\frac{4}{8} - \frac{4}{3}x < \frac{-3}{9}x - \frac{6}{7}$$

A. $(-\infty, a)$, where $a \in [-3.75, 0]$

B. (a, ∞), where $a \in [0, 4.5]$

C. $(-\infty, a)$, where $a \in [0.75, 4.5]$

D. (a, ∞), where $a \in [-3, -0.75]$

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.

$$-10x + 7 \leq 7x + 6$$

A. $(-\infty, a]$, where $a \in [-0.04, 0.12]$

B. $(-\infty, a]$, where $a \in [-0.07, -0.01]$

C. $[a, \infty)$, where $a \in [0.04, 0.16]$

D. $[a, \infty)$, where $a \in [-0.09, -0.05]$

E. None of the above.
