1. 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 3.

   A. $(1, 7)$

   B. $[1, 7]$

   C. $(-\infty, 1] \cup [7, \infty)$

   D. $(-\infty, 1) \cup (7, \infty)$

   E. None of the above

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

   $$-10x - 6 \leq -4x + 9$$

   A. $[a, \infty)$, where $a \in [-5.5, -0.5]$

   B. $(-\infty, a]$, where $a \in [1.5, 5.8]$

   C. $[a, \infty)$, where $a \in [1.5, 8.5]$

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

   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.

   $$\frac{-6}{9} + \frac{5}{5}x > \frac{8}{6}x - \frac{10}{2}$$

   A. $(-\infty, a)$, where $a \in [-14, -7]$

   B. (a, ∞), where $a \in [-15, -12]$

   C. $(-\infty, a)$, where $a \in [11, 15]$

   D. (a, ∞), where $a \in [10, 19]$

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.

$$3 + 4x > 7x \text{ or } 6 + 6x < 7x$$

A. $(-\infty, a) \cup (b, \infty)$, where $a \in [1, 4]$ and $b \in [4, 11]$

B. $(-\infty, a] \cup [b, \infty)$, where $a \in [-10, -5]$ and $b \in [-2, 0]$

C. $(-\infty, a] \cup [b, \infty)$, where $a \in [-2, 2]$ and $b \in [6, 7]$

D. $(-\infty, a) \cup (b, \infty)$, where $a \in [-6, -2]$ and $b \in [-4, 3]$

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.

$$-7 - 4x \leq \frac{-16x - 4}{6} < 8 - 3x$$

A. $(-\infty, a) \cup [b, \infty)$, where $a \in [-5.75, 3.25]$ and $b \in [22, 31]$

B. $[a, b)$, where $a \in [-7.75, -1.75]$ and $b \in [21, 27]$

C. $(-\infty, a] \cup (b, \infty)$, where $a \in [-10.75, -3.75]$ and $b \in [25, 29]$

D. $(a, b]$, where $a \in [-7.75, -3.75]$ and $b \in [26, 29]$

E. None of the above.

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

More than 10 units from the number 7.

A. $(-3, 17)$

B. $(-\infty, -3) \cup (17, \infty)$

C. $(-\infty, -3] \cup [17, \infty)$

D. $[-3, 17]$

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.

$$\frac{-6}{4} - \frac{4}{6}x > \frac{8}{7}x + \frac{4}{5}$$

A. $(-\infty, a)$, where $a \in [-5.27, 0.73]$

B. (a, ∞), where $a \in [-2.27, 0.73]$

C. (a, ∞), where $a \in [0.27, 2.27]$

D. $(-\infty, a)$, where $a \in [1.27, 4.27]$

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.

$$-4 + 8x > 10x \text{ or } 9 + 3x < 5x$$

A. $(-\infty, a] \cup [b, \infty)$, where $a \in [-9.5, -3.5]$ and $b \in [0, 3]$

B. $(-\infty, a) \cup (b, \infty)$, where $a \in [-3, 1]$ and $b \in [4.1, 6]$

C. $(-\infty, a] \cup [b, \infty)$, where $a \in [-2, 0]$ and $b \in [3.5, 5.5]$

D. $(-\infty, a) \cup (b, \infty)$, where $a \in [-4.5, -3.5]$ and $b \in [1.4, 4.2]$

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.

$$9x + 9 < 10x + 5$$

A. $(-\infty, a)$, where $a \in [-1, 7]$

B. $(-\infty, a)$, where $a \in [-9, 1]$

C. (a, ∞), where $a \in [-11, -3]$

D. (a, ∞), where $a \in [0, 7]$

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.

$$-4 + 7x < \frac{67x + 4}{9} \leq 4 + 5x$$

A. $(a, b]$, where $a \in [9, 13]$ and $b \in [-2.1, 0.6]$

B. $(-\infty, a] \cup (b, \infty)$, where $a \in [8, 15]$ and $b \in [-1.6, 0.2]$

C. $[a, b)$, where $a \in [10, 11]$ and $b \in [-3, 0.2]$

D. $(-\infty, a) \cup [b, \infty)$, where $a \in [8, 14]$ and $b \in [-3.45, 0.55]$

E. None of the above.
