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

   More than 9 units from the number 3.

   A. $(6, 12)$

   B. $[6, 12]$

   C. $(-\infty, 6] \cup [12, \infty)$

   D. $(-\infty, 6) \cup (12, \infty)$

   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.

   $$-10x - 9 < -3x - 6$$

   A. $(a, \infty)$, where $a \in [0.11, 0.63]$

   B. $(a, \infty)$, where $a \in [-0.99, -0.39]$

   C. $(-\infty, a)$, where $a \in [-0.14, 1.05]$

   D. $(-\infty, a)$, where $a \in [-1.36, -0.07]$

   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.

   $$-6 + 6x < \frac{26x - 7}{3} \leq 4 + 7x$$

   A. $(-\infty, a) \cup [b, \infty)$, where $a \in [0.82, 3.75]$ and $b \in [-13.5, -1.5]$

   B. $(a, b]$, where $a \in [0.75, 4.5]$ and $b \in [-8.25, -2.25]$

   C. $[a, b)$, where $a \in [-0.45, 1.88]$ and $b \in [-7.5, 0.75]$

   D. $(-\infty, a] \cup (b, \infty)$, where $a \in [-0.75, 5.25]$ and $b \in [-6, -3]$

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.

$$-8x + 8 < 9x + 9$$

A. $(-\infty, a)$, where $a \in [-0.19, 0.05]$

B. $(a, \infty)$, where $a \in [-0.2, 0.03]$

C. $(-\infty, a)$, where $a \in [0.02, 0.19]$

D. $(a, \infty)$, where $a \in [-0.01, 0.17]$

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.

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

A. $(-\infty, a) \cup (b, \infty)$, where $a \in [-6, -1.5]$ and $b \in [6, 8.25]$

B. $(-\infty, a] \cup [b, \infty)$, where $a \in [-9, -3.75]$ and $b \in [2.25, 5.25]$

C. $(-\infty, a) \cup (b, \infty)$, where $a \in [-7.5, -6.75]$ and $b \in [-2.25, 3.75]$

D. $(-\infty, a] \cup [b, \infty)$, where $a \in [-6, -0.75]$ and $b \in [6.75, 8.25]$

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

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

$$-4 + 9x < \frac{58x - 4}{6} \leq -6 + 7x$$

A. $[a, b)$, where $a \in [3.75, 7.5]$ and $b \in [0, 6.75]$

B. $(-\infty, a) \cup [b, \infty)$, where $a \in [3, 7.5]$ and $b \in [1.5, 3]$

C. $(-\infty, a] \cup (b, \infty)$, where $a \in [2.25, 11.25]$ and $b \in [-1.5, 3.75]$

D. $(a, b]$, where $a \in [1.5, 9.75]$ and $b \in [0.75, 4.5]$

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.

$$-7 + 7x > 10x \text{ or } 8 + 4x < 5x$$

A. $(-\infty, a) \cup (b, \infty)$, where $a \in [-14.25, -6.75]$ and $b \in [2.25, 3.75]$

B. $(-\infty, a) \cup (b, \infty)$, where $a \in [-3, 0]$ and $b \in [5.25, 9]$

C. $(-\infty, a] \cup [b, \infty)$, where $a \in [-8.25, -3.75]$ and $b \in [-0.75, 6]$

D. $(-\infty, a] \cup [b, \infty)$, where $a \in [-5.25, 1.5]$ and $b \in [5.25, 9]$

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.

$$\frac{-5}{2} - \frac{5}{6}x \geq \frac{-3}{8}x + \frac{10}{3}$$

A. $[a, \infty)$, where $a \in [11.25, 13.5]$

B. $(-\infty, a]$, where $a \in [-17.25, -10.5]$

C. $(-\infty, a]$, where $a \in [9, 14.25]$

D. $[a, \infty)$, where $a \in [-17.25, -10.5]$

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.

$$\frac{7}{4} + \frac{3}{5}x > \frac{5}{8}x - \frac{4}{3}$$

A. $(a, \infty)$, where $a \in [121.5, 126.75]$

B. $(-\infty, a)$, where $a \in [120, 124.5]$

C. $(a, \infty)$, where $a \in [-125.25, -122.25]$

D. $(-\infty, a)$, where $a \in [-124.5, -120]$

E. None of the above.

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

More than 9 units from the number 3.

A. $[6, 12]$

B. $(-\infty, 6] \cup [12, \infty)$

C. $(6, 12)$

D. $(-\infty, 6) \cup (12, \infty)$

E. None of the above

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