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

    No more than 2 units from the number 3.

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

    B. $[1, 5]$

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

    D. $(1, 5)$

    E. None of the above

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

    $$-10x + 6 \leq 7x + 8$$

    A. $[a, \infty)$, where $a \in [-0.03, 0.84]$

    B. $[a, \infty)$, where $a \in [-0.23, -0.04]$

    C. $(-\infty, a]$, where $a \in [0, 0.21]$

    D. $(-\infty, a]$, where $a \in [-0.13, 0.01]$

    E. None of the above.

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

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

    A. $(-\infty, a] \cup [b, \infty)$, where $a \in [-9, -6]$ and $b \in [3.3, 4.3]$

    B. $(-\infty, a] \cup [b, \infty)$, where $a \in [-5, -2]$ and $b \in [5.1, 10]$

    C. $(-\infty, a) \cup (b, \infty)$, where $a \in [-5, -1]$ and $b \in [6, 8]$

    D. $(-\infty, a) \cup (b, \infty)$, where $a \in [-11, -6]$ and $b \in [-3, 6]$

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

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

$$-9 - 8x \le \frac{-54x + 6}{8} < 9 - 7x$$

A. $(a, b]$, where $a \in [-12.8, -4.8]$ and $b \in [33, 36]$

B. $(-\infty, a) \cup [b, \infty)$, where $a \in [-8.8, -3.8]$ and $b \in [31, 37]$

C. $(-\infty, a] \cup (b, \infty)$, where $a \in [-11.8, -1.8]$ and $b \in [33, 35]$

D. $[a, b)$, where $a \in [-7.8, -3.8]$ and $b \in [33, 39]$

E. None of the above.

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

$$-4 + 8x > 9x \text{ or } 3 + 6x < 7x$$

A. $(-\infty, a] \cup [b, \infty)$, where $a \in [-3.34, -2.57]$ and $b \in [3.8, 4.5]$

B. $(-\infty, a) \cup (b, \infty)$, where $a \in [-3.5, -1.2]$ and $b \in [3.31, 4.55]$

C. $(-\infty, a) \cup (b, \infty)$, where $a \in [-5.5, -3.6]$ and $b \in [2.76, 3.25]$

D. $(-\infty, a] \cup [b, \infty)$, where $a \in [-4.31, -3.55]$ and $b \in [1.2, 3.5]$

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

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

More than 3 units from the number -9.

A. $(-12, -6)$

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

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

D. $[-12, -6]$

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.

$$-6 + 9x \leq \frac{75x - 6}{8} < -9 + 4x$$

A. $(-\infty, a] \cup (b, \infty)$, where $a \in [-15, -13]$ and $b \in [-2.53, -0.53]$

B. $[a, b)$, where $a \in [-17, -13]$ and $b \in [-1.9, -1.1]$

C. $(-\infty, a) \cup [b, \infty)$, where $a \in [-17, -13]$ and $b \in [-2.53, 1.47]$

D. $(a, b]$, where $a \in [-14, -10]$ and $b \in [-2.53, 1.47]$

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.

$$\frac{3}{6} - \frac{4}{4}x > \frac{3}{9}x + \frac{10}{5}$$

A. (a, ∞), where $a \in [-0.88, 3.12]$

B. $(-\infty, a)$, where $a \in [-0.88, 5.12]$

C. $(-\infty, a)$, where $a \in [-2.12, -0.12]$

D. (a, ∞), where $a \in [-3.12, 0.88]$

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.

$$\frac{5}{4} - \frac{9}{8}x \leq \frac{-6}{6}x - \frac{5}{2}$$

A. $(-\infty, a]$, where $a \in [29, 31]$

    B. $[a, \infty)$, where $a \in [30, 31]$

    C. $[a, \infty)$, where $a \in [-32, -28]$

    D. $(-\infty, a]$, where $a \in [-32, -29]$

    E. None of the above.

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

$$-9x + 10 > -6x - 5$$

    A. $(-\infty, a)$, where $a \in [-8, -2]$

    B. (a, ∞), where $a \in [3, 6]$

    C. $(-\infty, a)$, where $a \in [5, 9]$

    D. (a, ∞), where $a \in [-12, -4]$

    E. None of the above.