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

$$3x - 6 > 5x + 6$$

A. (a, ∞), where $a \in [3, 8]$

B. (a, ∞), where $a \in [-10, 0]$

C. $(-\infty, a)$, where $a \in [3, 8]$

D. $(-\infty, a)$, where $a \in [-7, -5]$

E. None of the above.

---

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

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

A. (a, ∞), where $a \in [-3.3, -1.1]$

B. $(-\infty, a)$, where $a \in [-1, 3]$

C. (a, ∞), where $a \in [1.1, 3.6]$

D. $(-\infty, a)$, where $a \in [-5, 0]$

E. None of the above.

---

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

Less than 6 units from the number 5.

A. $(-1, 11)$

B. $[-1, 11]$

C. $(-\infty, -1) \cup (11, \infty)$

D. $(-\infty, -1] \cup [11, \infty)$

E. None of the above

---

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

$$-9 + 9x < \frac{59x - 4}{6} \leq 9 + 6x$$

A. $(-\infty, a] \cup (b, \infty)$, where $a \in [7, 14]$ and $b \in [-4, 1]$

B. $(-\infty, a) \cup [b, \infty)$, where $a \in [6, 11]$ and $b \in [-4, 0]$

C. $(a, b]$, where $a \in [9, 16]$ and $b \in [-4, 0]$

D. $[a, b)$, where $a \in [5, 12]$ and $b \in [-5, -1]$

E. None of the above.

---

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

$$-5 + 6x > 7x \text{ or } 9 + 8x < 11x$$

A. $(-\infty, a) \cup (b, \infty)$, where $a \in [-3.1, -2.5]$ and $b \in [3.9, 5.2]$

B. $(-\infty, a) \cup (b, \infty)$, where $a \in [-5.2, -3.4]$ and $b \in [2.1, 3.8]$

C. $(-\infty, a] \cup [b, \infty)$, where $a \in [-5.4, -4.1]$ and $b \in [1.6, 4]$

D. $(-\infty, a] \cup [b, \infty)$, where $a \in [-3.8, -1]$ and $b \in [3.7, 5.7]$

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