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

$$-5 - 5x \leq \frac{-16x - 3}{6} < 8 - 3x$$

A. $[a, b)$, where $a \in [0.75, 3]$ and $b \in [-26.25, -21.75]$

B. $(a, b]$, where $a \in [-0.75, 3]$ and $b \in [-26.25, -24]$

C. $(-\infty, a) \cup [b, \infty)$, where $a \in [-0.75, 4.5]$ and $b \in [-27.75, -20.25]$

D. $(-\infty, a] \cup (b, \infty)$, where $a \in [0, 6.75]$ and $b \in [-30.75, -15.75]$

E. None of the above.

---

2. 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 7.

A. $(-\infty, 3) \cup (11, \infty)$

B. $[3, 11]$

C. $(3, 11)$

D. $(-\infty, 3] \cup [11, \infty)$

E. None of the above

---

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

$$\frac{6}{3} + \frac{7}{7}x \leq \frac{10}{5}x + \frac{8}{9}$$

A. $[a, \infty)$, where $a \in [0.38, 1.35]$

B. $[a, \infty)$, where $a \in [-1.72, 0.9]$

C. $(-\infty, a]$, where $a \in [0.45, 1.65]$

D. $(-\infty, a]$, where $a \in [-2.17, -0.3]$

E. None of the above.

---

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

$$3 + 6x \leq \frac{23x - 7}{3} < 6 + 7x$$

A. $(-\infty, a] \cup (b, \infty)$, where $a \in [-5.25, -1.5]$ and $b \in [-16.5, -11.25]$

B. $(-\infty, a) \cup [b, \infty)$, where $a \in [-5.25, -0.75]$ and $b \in [-13.5, -11.25]$

C. $(a, b]$, where $a \in [-7.5, -2.25]$ and $b \in [-14.25, -10.5]$

D. $[a, b)$, where $a \in [-4.5, -1.5]$ and $b \in [-16.5, -9.75]$

E. None of the above.

---

5. 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 9.

A. $(-\infty, 3] \cup [15, \infty)$

B. $(3, 15)$

C. $(-\infty, 3) \cup (15, \infty)$

D. $[3, 15]$

E. None of the above

---

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

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

A. $(-\infty, a) \cup (b, \infty)$, where $a \in [-6, 0]$ and $b \in [6, 9.75]$

B. $(-\infty, a) \cup (b, \infty)$, where $a \in [-18.75, -4.5]$ and $b \in [1.5, 4.5]$

C. $(-\infty, a] \cup [b, \infty)$, where $a \in [-10.5, -6]$ and $b \in [2.25, 3.75]$

D. $(-\infty, a] \cup [b, \infty)$, where $a \in [-5.25, 0.75]$ and $b \in [6, 12]$

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

---

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

$$-7 + 7x > 8x \text{ or } -4 + 3x < 5x$$

A. $(-\infty, a] \cup [b, \infty)$, where $a \in [-12, -3.75]$ and $b \in [-5.25, -0.75]$

B. $(-\infty, a) \cup (b, \infty)$, where $a \in [-2.25, 6.75]$ and $b \in [1.5, 9]$

C. $(-\infty, a] \cup [b, \infty)$, where $a \in [-2.25, 3]$ and $b \in [4.5, 8.25]$

D. $(-\infty, a) \cup (b, \infty)$, where $a \in [-9.75, -5.25]$ and $b \in [-4.5, 0.75]$

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

---

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

$$-10x - 3 > -8x + 7$$

A. (a, ∞), where $a \in [5, 17]$

B. (a, ∞), where $a \in [-5, 0]$

C. $(-\infty, a)$, where $a \in [4, 11]$

D. $(-\infty, a)$, where $a \in [-7, 0]$

E. None of the above.

---

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

$$\frac{-7}{5} - \frac{6}{4}x \geq \frac{8}{7}x + \frac{9}{6}$$

A. $[a, \infty)$, where $a \in [-1.5, 0]$

B. $(-\infty, a]$, where $a \in [-3, 0]$

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

D. $[a, \infty)$, where $a \in [-0.75, 1.5]$

E. None of the above.

---

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

$$-10x - 8 < -5x - 4$$

A. $(-\infty, a)$, where $a \in [-0.2, 2.8]$

B. $(-\infty, a)$, where $a \in [-1.8, 0.2]$

C. (a, ∞), where $a \in [0.2, 1.6]$

D. (a, ∞), where $a \in [-2.2, -0.1]$

E. None of the above.
