CHAPTER 12

LINEAR INEQUALITIES

More Questions for Practice

1. Solve each of the following inequations:

(*a*) $3(2x - 3) - 7x > 10, x \in I$ (*b*) $(8x - 4) - (6x + 5) < 2, x \in N$

2. Find the solution set of each of the following equations and inequations in the given domain and draw its graph:

(*a*) $3x + 2 = 8, x \in I$ (*b*) $2x < 15, x \in N$ (*c*) $3(2x - 3) < 5, x \in N$

(*d*) $7x - 4 < 2x + 16, x \in W$ (*e*) $-2 \le x \le 2, x \in I$

3. Solve the following inequations, where x is any number:

(*a*) $x - 4 < 10$ (*b*) $5x - 1.8 < 5$ (*c*) $3x + 1 \le 7$

4. Graph the solution set of each of the following inequations:

(*a*) $x + 2 \ge 5, x \in W$ (*b*) $x + 3 < 3, x \in I$ (*c*) $\frac{1}{2} < x < 3\frac{1}{2}, x \in N$

5. Find the solution set of the linear inequation $\frac{x}{2} + 3 > 5, x \in N$.

Graph the solution on the number line.

ANSWERS

1. (*a*) {–20, –21, –22, ...} (*b*) {1, 2, 3, 4, 5}

2. (*a*) {2}

(*b*) {1, 2, 3, 4, 5, 6, 7}

(*c*) {1, 2}

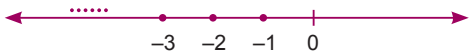
(*d*) {0, 1, 2, 3}

(*e*) {–2, –1, 0, 1, 2}

3. (*a*) $\{x \mid x < 14\}$ (*b*) $\{x \mid x < 1.36\}$ (*c*) $\{x \mid x \le 2\}$

4. (*a*)

(*b*)



(*c*)

5. Solution set is {5, 6, 7, ...}.