CHAPTER 12

INEQUALITIES

More Questions for Practice

1. Solve each of the following inequalities:

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

(*c*) $x - 4 < 10, x \in I$ (*d*) $3x + 1 \leq 7, x \in I$

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

(*a*) $2x < 15, x \in N$ (*b*) $3(2x - 3) < 5, x \in N$

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

(*e*) $x + 2 \geq 5, x \in W$ (*f*) $\frac{1}{2} < x < 3\frac{1}{2}, x \in W$

3. Geeta can type a manuscript in 25 minutes. Find the maximum number of manuscripts she can type in 4 hours.

4. Solve:

(*a*) $|x - 2| \leq 3$ (*b*) $|5 - 2x| \geq 7$ (*c*) $|1 - 3x| > 5$ (*d*) $|6x - 5| < 2$

ANSWERS

1. (*a*) $\{-20, -21, -22, ...\}$ (*b*) $\{1, 2, 3, 4, 5\}$ (*c*) $\{x \mid x < 14, x \in I\}$

(*d*) $\{x \mid x \leq 2, x \in I\}$

2. (*a*) $\{1, 2, 3, 4, 5, 6, 7\}$

(*b*) $\{1, 2\}$

(*c*) $\{0, 1, 2, 3\}$

(*d*) $\{-2, -1, 0, 1, 2\}$

(*e*) $\{x \mid x \geq 3\}$

(*f*) $\{1, 2, 3\}$

3. 9 manuscripts

4. (*a*) $-1 \leq x \leq 5$ (*b*) $x \leq -1$ or $x \geq 6$ (*c*) $x < -\frac{4}{3}$ or $x > 2$

(*d*) $x < \frac{7}{6}$ or $x > \frac{1}{2}$.