Chapter Test

Form B

Chapter 3

Is each number a solution of the given inequality?

1. $3y + 4 \geq -10$

   a. -2 Yes   **b.** 2   Yes   **c.** -5 No

2. $-5x + 4 \leq 9$

   a. -2 No   **b.** 0   Yes   **c.** 3   Yes

Write an inequality to model each situation.

3. The package must weigh less than 25 lb. $x < 25$

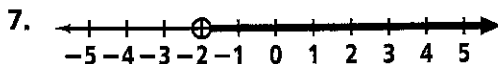4. The houses must be more than 12 ft apart. $x > 12$
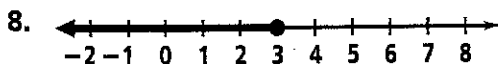
5. Tickets to the movie cost at least \$3.50. $x \geq 3.50$
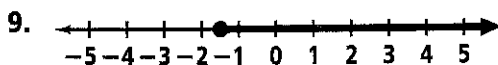
6. The wind speed is greater than 10 mi/h. $x > 10$

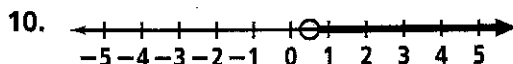**Write an inequality for each graph.**

7. $x > -2$

8. $x \leq 3$

9. $x \geq -1.5$

10. $x > \frac{1}{2}$

Solve each inequality. Graph the solution.   Pick 3 (11-24)

11. $-\frac{1}{3}x < 12$ $x > -36$ 12. $7y - 11 \leq 17$ $y \leq 4$ 13. $-8 < 4h < 24$ $-2 < h < 6$

14. $-\frac{2}{3}a > 8$ $a < -12$

17. $-2 \leq t - 4 < 3$ $2 \leq t < 7$ 18. $8x < 40$ and $3 - x \leq 2$ $1 \leq x < 5$ 19. $-48 \geq 8y$ $y \leq -6$

20. $3r > 27$ or $-4r - 6 > 14$ $r > 9$ or $r < -5$ 21. $k + 14 > 10$ $k > -4$ 22. $9z \geq 2z + 35$ $z \geq 5$
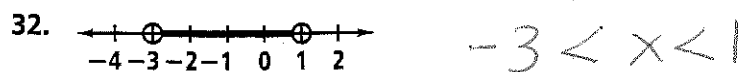
23. $17 - x > 3$ $x < 14$ 24. $3y + 9 < -7y - 11$ $y < -2$

Chapter Test (continued) Form B

Chapter 3

Write a compound inequality that each graph could represent.

31.

$x \geq 1$ OR $x \leq -2$

32.

$-3 < x < 1$

Choose 1 Word Problem (37-39)

37. Open-Ended Describe a real-life situation you could represent with the inequality $5 \geq x \geq 15$.   No Such Situation exists; inequality is false

38. Diana is earning money by mowing lawns. She charges $15 per yard. Lawn mower rental costs $30. Write and solve an inequality to find the minimum number of yards she must mow to make a profit of at least $40.

$15x - 30 \geq 40$
5 lawns

39. Doreen has started a part-time business making and selling bird feeders. Her equipment costs $75. If she makes a profit of $6 on each, how many bird feeders must Doreen sell to make a total profit of more than $135? Write and solve an inequality for this situation.

$6x - 75 > 135$
36 Bird feeders