

Chapter Test

Form B

Chapter 4

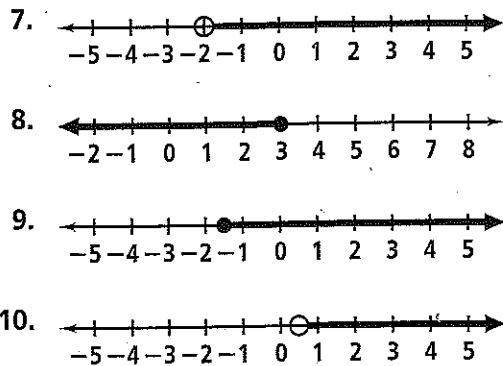
Is each number a solution of the given inequality?

1. $3y + 4 \geq -10$
 a. -2 b. 2 c. -5
2. $-5x + 4 \leq 9$
 a. -2 b. 0 c. 3

Write an inequality to model each situation.

3. The package must weigh less than 25 lb.
4. The houses must be more than 12 ft apart.
5. Tickets to the movie cost at least \$3.50.
6. The wind speed is greater than 10 mi/h.

Write an inequality for each graph.



Solve each inequality. Graph the solution.

- | | | |
|---------------------------------|----------------------------------|------------------------|
| 11. $-\frac{1}{3}x < 12$ | 12. $7y - 11 \leq 17$ | 13. $-8 < 4h < 24$ |
| 14. $-\frac{2}{3}a > 8$ | 15. $ a - 4 \geq 8$ | 16. $ 4m + 2 \geq 14$ |
| 17. $-2 \leq t - 4 < 3$ | 18. $8x < 40$ and $3 - x \leq 2$ | 19. $-48 \geq 8y$ |
| 20. $3r > 27$ or $-4r - 6 > 14$ | 21. $k + 14 > 10$ | 22. $9z \geq 2z + 35$ |
| 23. $17 - x > 3$ | 24. $3y + 9 < -7y - 11$ | 25. $2 d - 2 + 3 < 9$ |

Solve each inequality. Check your solution.

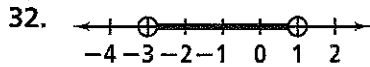
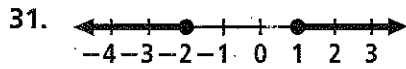
26. $6(y - 5) > 12$
27. $3(4x - 2) \leq 2(5x - 8)$
28. $7a - (4a + 2) > 8$
29. $0.5(x + 4) - 3.4 \geq -2$
30. **Writing** Explain how to solve $|x| + 4 < 9$.

Chapter Test (continued)

Form B

Chapter 6

Write a compound inequality that each graph could represent.



Solve each equation. Check your solution.

33. $|x - 3| = 5$

34. $|3x - 4| = 8$

35. $|5c - 1| - 3 = 16$

36. $6|8 - y| = 36$

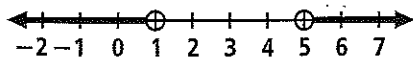
37. **Open-Ended** Describe a real-life situation you could represent with the inequality $5 \geq x \geq 15$.

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.

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.

40. The ideal diameter of a machine part is 13.05 mm. At the factory, the quality control inspector is told that the actual diameter can vary from ideal by at most 0.015 mm. Write and solve an absolute value inequality to find the range of acceptable diameters.

41. Which of the following inequalities could be represented by the graph?



I. $-3y < -15$ or $y < 1$

II. $|x - 3| > 2$

III. $5 < 2a + 3 < 13$

A. I only

B. I and II

C. II and III

D. I and III

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