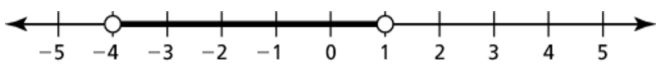
Name _____ Date _____

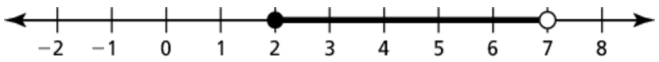
2.5 Practice A

In Exercises 1–3, write a compound inequality that is represented by the graph.

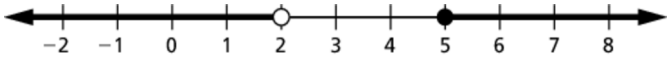
1.



2.



3.



In Exercises 4–6, write the sentence as an inequality. Graph the inequality.

4. A number t is less than 5 and greater than 3.

5. A number m is less than -3 or greater than or equal to 1.

6. A number s is at least -2 or less than -6.

7. You are purchasing a new refrigerator. To fit in the space, the width of the refrigerator cannot be more than 42 inches. To meet your storage requirements, the width of the refrigerator must be at least 36 inches. Write a compound inequality that represents this range.

In Exercises 8–13, solve the inequality. Graph the solution.

8. $3 < x + 4 \leq 10$

9. $15 > -5t \geq -10$

10. $-4 \geq 8 - 4q \geq -12$

11. $h + 7 < 5$ *or* $-9h < -45$

12. $-11 > m + 4$ *or* $2m \geq -16$

13. $3w + 2 < 5$ *or* $-w + 8 \leq 2$

14. A bike shop rents bikes with heights ranging from 18 inches to 26 inches. The shop says the height of the bike should be about 0.6 times a cyclist's leg length. Write and solve a compound inequality that represents the leg lengths of the cyclists the shop does *not* provide bikes for.

In Exercises 15–18, solve the inequality. Graph the solution, if possible.

15. $24 < -5t + 4 < 16$

16. $3p - 2 \geq 4$ *or* $7p > -28$

17. $-n + 5 \leq 9$ *and* $n + 3 > 8$

18. $a - 6 \leq 3$ *or* $3a + 2 > 8$

Name _____ Date _____

2.6 Practice A

In Exercises 1–9, solve the inequality. Graph the solution, if possible.

1. $|x| < 4$

2. $|y| \geq 3.5$

3. $|k + 8| > 2$

4. $|y - 4| \leq 8$

5. $|3w - 8| \geq -2$

6. $|3c + 4| > 7$

7. $|6b + 4| < -8$

8. $|8 - 3r| < 5$

9. $|5y - 2| + 5 > 0$

10. The rules for a book report say that the report should have 300 words with an absolute deviation of at most 20 words. Write and solve an absolute value inequality that represents the acceptable number of words.

11. Describe and correct the error in solving the absolute value inequality.

$$|x + 2| < -3$$
$$x + 2 < -3 \text{ or } x + 2 > 3$$
$$x < -5 \text{ or } x > 1$$

In Exercises 12–14, write the sentence as an absolute value inequality. Then solve the inequality.

12. A number is less than 4 units from 0.

13. A number is more than 11 units from 8.

14. Half a number is at least 2 units from 20.

15. A nail manufacturer throws out nails with lengths that are not within 0.05 inch of the mean length of the batch. The lengths (in inches) of the nails in a batch are 0.42, 0.53, 0.55, 0.48, and 0.51. Which nail(s) should be thrown out?

16. Write an absolute value inequality that represents the situation. Then solve the inequality. The difference between the areas of the figures is at most 6.