

NAME _____

DATE _____

Module Test **B**

Module 6
Solve.

1. $|x| < -2$ _____
2. $|b| = 4$ _____
3. $|q| \geq 0$ _____
4. $|m| < 6$ _____
5. $|b| = 8$ _____
6. $|f| < 0$ _____
7. $|r + 5| \geq 3$ _____
8. $|-4h| = 28$ _____
9. $|4 - x| = 12$ _____
10. $|y - 4| \leq 3$ _____
11. $|\frac{2}{3}w| < 4$ _____
12. $|x| - 5 \geq 0$ _____
13. $|3t| - 6 < 6$ _____
14. $18 < -2|x|$ _____
15. $|y + 2| > 0$ _____
16. $|b + 3| - 4 > 6$ _____
17. $6 - 3|x + 2| = -12$ _____
18. $4|x - 8| + 8 \leq 12$ _____
19. $\frac{|b|}{4} + 6 > 8$ _____
20. $-4 \geq |g - 6| + 11$ _____
21. $|3m - 9| < 0$ _____

22. A hospital laboratory should be maintained at an ideal constant temperature of 72°F . Certain specimens suffer when the temperature varies by more than 1.5°F from the ideal. What are the maximum and minimum temperatures that are safe for the specimens?
- _____
- _____

23. A light bulb manufacturer tests a sample bulb from each batch. Ideally, a light bulb should burn for 1,500 hours. The batch is accepted if the burn time of the sample bulb is no more than 200 hours different from the ideal.

- A. Write an absolute value equation or inequality to describe the burn times for which the batch is accepted.
- _____

B. Explain what the variable represents in your answer to A.

C. Solve the inequality. Show all steps.

D. Graph the solution you found in part C.

E. What inequality shows the burn times for which the batch is *not* accepted?
Explain the inequality in the context of a number line.

