Name _____ Date _____

LESSON 6.6

Practice C

For use with pages 398–403

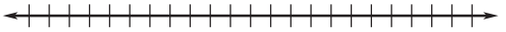
Solve the inequality. Graph your solution.

1. $|x - 4| < 10$

2. $|x + 7| > 4.5$

3. $|x - 10| \leq 13$

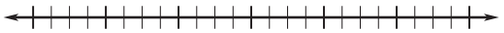
4. $|2x - 5| > 17$



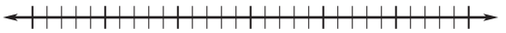
5. $|8 - 3x| < 14$

6. $7\left|\frac{1}{2}x + 5\right| \geq 14$

7. $-2|4x + 3| < -8$

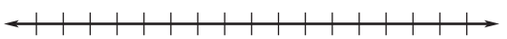


8. $|5x - 2| - 8 \geq -3$

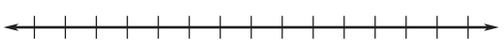


9. $6|2x + 9| - 14 \leq 16$

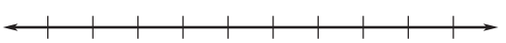
10. $\frac{3}{4}|4x - 4| - 5 > 10$



11. $\frac{3}{5}|10 - 5x| + 7 > 25$

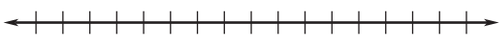


12. $-\frac{1}{2}|5 - 9x| + 4 \leq -10$



Write the verbal sentence as an inequality. Then solve the inequality and graph your solution.

13. Seven more than 2 times the distance between x and 4 is less than 15.



Name _____ Date _____

LESSON 6.6

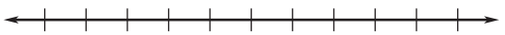
Practice C *continued*

For use with pages 398–403

14. The difference between 9 and 3 times the distance between x and -5 is greater than 6.

15. The difference between 5 and 2 times the distance between x and -7 is less than 1.

16. The difference between 3 times the distance between x and -2 and 5 is greater than 10.



Tell whether the statement is *true* or *false*. If it is false, give a counterexample.

17. If a is a solution of $|3 - 8x| < 6$, then a is also a solution of $8x - 3 > -6$.

18. If a is a solution of $-3|2x - 5| > -6$, then a is also a solution of $2x - 5 > -2$.

19. Solve $|x - 5| \geq 6$ *and* $|x + 1| \leq 3$. *Describe* your steps in solving the compound inequality.

20. **Body Temperature** A feline's body temperature is considered to be normal if it is 101.55°F with an absolute deviation of 1.55°F.

a. Write an absolute value inequality that represents the normal temperature range.

b. Solve the inequality. What is the normal temperature range?

c. What is the normal temperature range in degrees Celsius? *Explain* how you got your answer.

21. **Bowling** A bowling ball should have a circumference of 26.853 inches with an absolute deviation of 0.149 inch.

a. Write an absolute value inequality that represents the range for the circumference of a bowling ball.

b. What are the maximum and minimum circumferences of a bowling ball?

c. What are the maximum and minimum diameters of a bowling ball? *Explain* how you got your answer.

d. Is a ball that has a circumference of 27 inches and a diameter of 8.6 inches within the ranges that it should be? *Explain* why or why not.