LESSON 6.1

NAME _____ DATE _____

Challenge: Skills and Applications

For use with pages 334–339

1. If $a > b$ and $c < 0$, is $ac > bc$ or is $ac < bc$?

In Exercises 2–5, write an inequality.

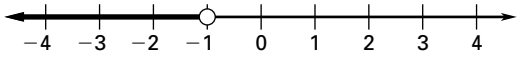
2. x is at least -5

3. x is not more than 8

4. x is not less than 3

5. x is at most 2

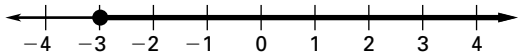
In Exercises 6–7, use the following number line.



6. Write an inequality of the form $ax < b$ that has a solution matching the graph.

7. Write an inequality of the form $x + a < b$ that has a solution matching the graph.

In Exercises 8–9, use the following number line.



8. Write an inequality of the form $ax \leq b$ that has a solution matching the graph.

9. Write an inequality of the form $a - x \leq b$ that has a solution matching the graph.

In Exercises 10–15, *a* and *b* are real numbers such that $b > a > 0$. Tell whether the statement is *sometimes* true, *always* true, or *never* true. If it is sometimes true, give a set of values for which it is true and a set of values for which it is false.

10. $2b < a + b$

11. $\frac{a}{b} < \frac{b}{a}$

12. $b < b^2$

13. $a^2 < b^2$

14. $b^2 < a$

15. $-a^2 < -ab$

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