Name_____ Date:_____

Chapter 1 Review

1. Write an algebraic expression that represents the verbal expression *five increased by seven times a number*.

2. Evaluate $(a-y)^2 + 2y^3$ if $a = 2$ and $y = -3$.

3. Evaluate $-|a - 3b|$ if $a = -2$ and $b = 6$.

4. The formula $A = \frac{180(n-2)}{n}$ relates the measure A of an interior angle of a regular polygon to the number of sides n. If an interior angle measures 120°, find the number of sides.

5. Name the sets of numbers to which -28 belongs.

6. Simplify $\frac{1}{3}(6x+3) - 4(3x-2)$.

7. Name the property illustrated by $7 \cdot (9 + 1) = (9 + 1) \cdot 7$.

For Questions 8–11, solve each equation.

8. $\frac{2}{5y} = \frac{3}{14}$

9. $3|x-5| = 12$

10. $3(5x-1) = 3x+3$

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11. Evaluate $|a-8b|$ if $a=-3$ and $b=-\frac{1}{4}$

12. $|y-8|+6=15$

13. $|5+2x|=x-5$

For Questions 14–18, solve each inequality.

14. $-3(r-11)+15 \geq 9$

15. $-2 < 4x+10 \leq 12$

16. $2x-5 \leq 10$ or $33-4x < 5$

17. $3|m-4| > 6$

18. $|3w-7| \leq 2$

19. Solve and graph $8.5 > 6.1 + 0.6y$.

Bonus: One number is two less than a second number. If you take one-half of the first number and increase it by the second number, the result is at least 41. Find the least possible value for the second number.

Bonus: $|x|+x > 0$