Name _____

enVision Algebra 2

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ACA 4 REVIEW (1)

1. Write the compound inequality shown on the graph.

2. The cost of renting a bicycle is $10. Each additional hour cost $4.
   a) What is the explicit formula to represent the situation?

   b) What is the recursive formula to represent the situation?

3. Find the solution to the system of equations: $5x - 2y = -26$
   $3x - 6y = -30$

4. Simplify $(-2x + 5) - (4x^2 - 6x + 3)$

5. What is the product $(6x^2 - 2)(5x^2 - 6x + 2)$? (Simplify.)

6. What is the product $(2y - 7)(2y + 7)$? (Simplify.)

7. The vertex of the graph of $f(x) = -\frac{1}{2}|x + 2| - 3$ is _____.
   The graph opens _____. (upward or downward)

8. What is the vertex of the function $f(x) = 2(x - 5)^2 + 6$?

9. The graph of g is a translation of 2 units left and 6 units down from the graph of $f(x) = x^2$.
   What is the vertex form of this function?

10. The function $g(t) = -8t^2 + 12t$ models the height, in feet, of a frog *t* seconds after it jumps. What is the **maximum** height of the jump?

11. What is the GCF of $3a^3b$ and $15a^2b$?

12. What is the factored form of $x^2 - x - 30$?

13. **Factor:** $4y^2 + 10y - 6$.

14. Factor the perfect square trinomial $9x^2 - 30x + 25$.

15. What are the solutions to $x^2 + 4x - 12 = 0$

16. State the solutions of $3x^2 + 10x - 8 = 0$ by factoring.

17. **Solve:** $36 = (x - 5)^2$

18. What is the solution of $x^2 - 6x = -4$ (Leave is simplest radical Form)?

19. Use quadratic formula to solve $2x^2 + 7x = 1$. (Round to the nearest hundredth).

20. Multiply: $\left(2\sqrt{14x^7}\right)(5\sqrt{14x^3})$