

Ch 5 Test Name _____

Alg 2 Period 6

1. ***Write the General Form of a Quadratic Equation.
2. ***Write the Quadratic Formula
3. ***Write the formula for the discriminant and explain how it is used to determine the number of roots.
4. ***Write the formula for finding the axis of symmetry and vertex, (x-coordinate) in quadratic equations;
 $y = ax^2 + bx + c$
5. ***What is the value of i^2 and what is its significance?
6. ***In the equation $y = a(x - h)^2 + k$, identify the vertex.

Ch 5 Prac Name _____

Alg 2 Period 6

1. ***Write the General Form of a Quadratic Equation.
2. ***Write the Quadratic Formula
3. ***Write the formula for the discriminant and explain how it is used to determine the number of roots.
4. ***Write the formula for finding the axis of symmetry and vertex, (x-coordinate) in quadratic equations;
 $y = ax^2 + bx + c$
5. ***What is the value of i^2 and what is its significance?
6. ***In the equation $y = a(x - h)^2 + k$, identify the vertex.

7. **Use the discriminant to determine the number and types of roots in the equation; $y = 5x^2 - 3x - 12$

7. **Use the discriminant to determine the number and types of roots in the equation; $y = 2x^2 - 3x + 7$

8. **Find the vertex of $y = x^2 + 4x - 3$

8. **Find the vertex of $y = x^2 - 10x - 13$

9. **In the equation, $y = 4(x - 2)^2 - 5$, identify the vertex.

9. **In the equation, $y = 4(x + 6)^2 - 4$, identify the vertex.

10. **Write $y = x^2 + 10x - 4$ in vertex form. (Hint - complete the square)

10. **Write $y = x^2 - 6x - 4$ in vertex form. (Hint - complete the square)

11. **Graph $y = x^2 + 2x - 3$ using the vertex and symmetry around the axis of symmetry.

11. **Graph $y = x^2 + 2x - 3$ using the vertex and symmetry around the axis of symmetry.

12. **Graph $y = x^2 + 6x - 16$ using the vertex and x-intercepts.

12. **Graph $y = x^2 + 6x - 4$ using the vertex and x-intercepts.

13. **Solve by the Quadratic

$$3x^2 + 5x = 1$$

14. **Solve by Factoring

$$x^2 + 4x - 21 \geq 0$$

13. **Solve by the Quadratic
Formula

$$2x^2 + 15 = 13x$$

14. **Solve by Factoring

$$x^2 - 3x - 10 \geq 0 \text{ a}$$

15. **Graph $y < 2x^2 + 12x + 14$

15. **Graph $y < x^2 + 6x + 7$

16. **Graph $y \geq x^2 - 4x - 5$

16. **Graph $y \leq -x^2 + 8x - 10$

17. **Write in Standard Form, $(8 - i) + (1 + 5i)$

17. **Write in Standard Form, $(3 - i) + (1 + 5i)$

18. **Write in Standard Form, $(2 + 3i) / (5 + 2i)$

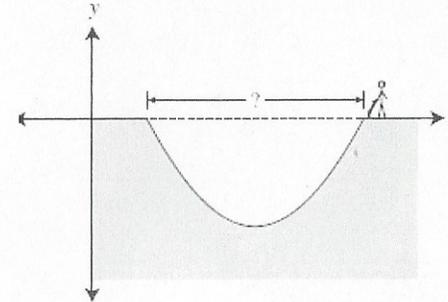
18. **Write in Standard Form, $(2 + 3i) / (5 + 2i)$

19. *ACT/SAT The height h of an object t seconds after being thrown vertically upward with a starting speed of v_0 feet per second from an altitude of h_0 is given by the formula: $h = -16t^2 + v_0t + h_0$. How much time will elapse before a missile fired with an upward velocity of 8000 feet per second from the edge of a cliff 1300 feet high again reaches an altitude of 1300 feet?

20. *ACT/SAT A real estate developer estimates that the monthly profit p in dollars from a building s stories high is given by $p = -2s^2 + 88s$. What height building would he consider most profitable?

21. ***Write a home phone, cell number, email or home address to contact your parent or guardian. (CHP)

19. *ACT/SAT Alicia is designing a skateboard park, one skating area in the park will be shaped like a parabola shown below and described by the equation; $y = 1/6(x^2 - 18x + 45)$. What is the distance across the top and what is the greatest depth?



20. *ACT/SAT Find three consecutive numbers, of which x is the middle one, such that if the product of the first by the last is increased by the middle number, the result is 29.

21. ***Write a home phone, cell number, email or home address to contact your parent or guardian. (CHP)