Algebra 2 Unit 5 Study Guide: Quadratics

1. (15)(-13)

2. 16 ÷ -4

3. -17 + -32

4. 45 – -17

5. Write the parent equation for a cubic function.

6. Write in interval notation. {x | x ≤ -4}

7. Write in set-builder notation. [5, 13)

8. Write the equation of the line that goes through point (-4, 1) and has a slope of -3 **in point-slope form.**

9. What is the slope of the line f(x) = 3x + 1?

10. Solve the system.
$$\begin{cases} 2x - 4y = -22 \\ 3x + y = 9 \end{cases}$$

11. Solve the system.
$$\begin{cases} x = 10 - 2y \\ 3x - 4y = 10 \end{cases}$$

12. What is a consistent system of equations with infinitely many solutions called?

13. Simplify. $\dfrac{a^3 b^2 c d^4 b^3}{a^{-2} b^4 d^5}$

14. Simplify. $\sqrt{120}$

15. $i^2 = ?$

16. Simplify. $(3 - 4i) + (2 + 5i)$

17. Simplify. $(2 + 3i)(2 - 3i)$

For problems 18-19, use the equation shown below.

$$f(x) = 2x^2 + 12x - 32$$

18. Determine the vertex.

19. Determine the zeros.

For problems 20-21, use the equation shown below.

$$f(x) = x^2 + 6x - 1$$

20. Determine the vertex.

21. Determine the zeros.

For problems 22-23, use the equation shown below.

$$j(x) = 3x^2 + 10x + 8$$

22. Determine the vertex.

23. Determine the zeros.

For problems 24-25, use the equation shown below.

$$h(x) = -(x + 2)^2 - 4$$

24. Determine the vertex.

25. Determine the zeros.