

Algebra 2
Worksheet 3.1-3.4 B

NAME _____

Solve the equation by Graphing.

1. $f(x) = x^2 + x - 12$

$-4, 3$

2. $y = 2x^2 - 4x - 30$

$5, -3$

Solve the equation using Square Roots.

3. $x^2 + 18 = 43$

± 5

4. $(x + 2)^2 - 13 = 15$

$-2 \pm 2\sqrt{7}$

Solve the equation by Factoring.

5. $0 = x^2 + 5x - 24$

$-8, 3$

6. $y = 2x^2 + 7x - 4$

$-4, \frac{1}{2}$

Find the square root of each.

7. $\sqrt{-64}$

$8i$

8. $\sqrt{-54}$

$3i\sqrt{6}$

9. $2\sqrt{-24}$

$4i\sqrt{6}$

Simplify each expression.

10. $(5 - 4i) + (6 - 3i)$

$11 - 7i$

11. $(-2 + 5i) - (8 - 4i)$

$-10 + 9i$

12. $(3 - 2i)(7 + 4i)$

$29 - 2i$

13. $(1 + 6i)(3 - 2i)$

$15 + 16i$

14. $(3 + 2i)(3 - 2i)$

13

15. $(2 - 5i)^2$

$-21 - 20i$

Find the zeros of the function.

16. $0 = x^2 + 32$

$$\pm 4i\sqrt{2}$$

17. $x^2 - 17 = -62$

$$\pm 3i\sqrt{5}$$

18. $f(x) = 2x^2 + 40$

$$\pm 2i\sqrt{5}$$

Solve the equation by using the Quadratic Formula.

19. $x^2 + 3x - 4 = 0$

$$-4, 1$$

21. $2x^2 - 4x = 3$

$$\frac{2 \pm \sqrt{10}}{2}$$

22. $x^2 + 5 = -4x$

$$-2 \pm i$$