

Chapter 10
Review Worksheet

Name _____

Find the axis of symmetry and the vertex of the following.

1. $y = -4x^2 + 3$

2. $y = x^2 + 5x - 12$

3. $y = \frac{3}{2}x^2 - 6x$

4. $y = \frac{1}{4}x^2 + 8x$

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

6. $y = x^2 + 5$

Graph each function. Include the axis of symmetry, vertex, and T-Chart.

7. $y = -x^2 + 3$

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

9. $\frac{3}{2}x^2 + 4x - 2$

10. Write an equation of a parabola that has two x-intercepts and a minimum vertex. Include a graph of the parabola.

Approximate the following square roots using interpolation. (Hint: There will be a fraction in your answer).

11. $\sqrt{113}$

12. $\sqrt{156}$

13. $\sqrt{432}$

14. $\sqrt{38}$

Simplify the following square roots EXACTLY. No approximations or decimal answers.

15. $\sqrt{18}$

16. $\sqrt{245}$

17. $\sqrt{192}$

18. $\sqrt{\frac{49}{169}}$

Find the number of solutions of each equation.

19. $x^2 + 3x = -1$

20. $3x^2 - x + 5 = -2$

21. $7x^2 + 2x + 3 = 0$

Solve the following by factoring.

22. $x^2 - 5x - 14 = 0$

23. $t^2 - 3t = 28$

24. $x^2 - 16x + 55 = 0$

25. $2x^2 - 10x = -12$

26. $6x^2 - 8x - 30 = 0$

27. $2x^3 + 10x^2 - 12x = 0$

Solve the following by taking the square root.

28. $2x^2 - 98 = 0$

29. $3x^2 + 12 = 12$

30. $2x^2 + 32 = 0$

Solve the following by using the Quadratic Formula.

31. $4x^2 - 12x + 9 = 0$

32. $5x^2 - 68x = 192$

33. $3x^2 - 11x - 2 = 0$

34. $2x^2 - 24x + 33 = 0$

35. $8x^2 - 3x - 7 = 0$

36. The area of a soccer field is 5000 yd^2 . The length of the field is twice the width. Find the dimensions of the field.

37. A triangular pennant has an area of 420 in^2 . The height of the triangle is 10in less than 5 times the base of the triangle. What are the dimensions of the pennant?

38. The volume of a square pyramid is given by the formula $V = \frac{1}{3}hx^2$ where h is the height of the pyramid and x is the length of one side of the base. A pyramid with a height of 15 ft has a volume of 2880 ft^3 . What is the length of one side of the base?