



Name \_\_\_\_\_ Date \_\_\_\_\_ Period \_\_\_\_\_

## REVIEW SOLVING QUADRATICS WORKSHEET

Solve by factoring.

1.)  $x^2 - 64 = 0$

2.)  $8x^2 - 2x - 18 = -15$

3.)  $x^2 + 3x = 40$

4.)  $2x^2 + 3x + 1 = 0$

5.)  $4x^2 - 8x = 3$

6.)  $3x^2 + 6x - 42 = 0$

Solve by square roots.

7.)  $4x^2 = 81$

8.)  $(4x - 3)^2 + 7 = 39$

9.)  $5 - 6y^2 = 113$

10.)  $(x - 5)^2 = 36$

Solve by completing the square.

11.)  $4x^2 - 8x = 3$

12.)  $3x^2 + 6x - 42 = 0$

For #13-15, write the expression for the discriminant. Use this to find the number of real solutions for each equation:

13.)  $2x^2 - 3x + 1 = 0$

14.)  $x^2 + 4x = -7$

15.)  $x^2 + 9 = 6x$

Solve using the quadratic formula.

16.)  $2x^2 + 5x = -3$

$a = \underline{\hspace{1cm}}, b = \underline{\hspace{1cm}}, c = \underline{\hspace{1cm}}$

17.)  $2x^2 - 6 = -x$

$a = \underline{\hspace{1cm}}, b = \underline{\hspace{1cm}}, c = \underline{\hspace{1cm}}$

18.)  $3x^2 - 2x - 5 = 0$

$a = \underline{\hspace{1cm}}, b = \underline{\hspace{1cm}}, c = \underline{\hspace{1cm}}$

19.)  $x^2 - 2x + 5 = 0$

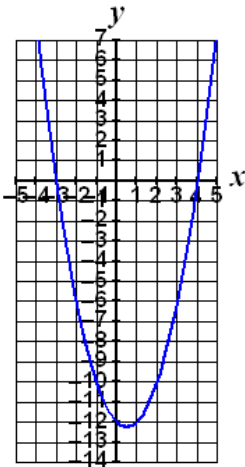
$a = \underline{\hspace{1cm}}, b = \underline{\hspace{1cm}}, c = \underline{\hspace{1cm}}$

20.)  $6x + 9 = 2x^2$

$a = \underline{\hspace{1cm}}, b = \underline{\hspace{1cm}}, c = \underline{\hspace{1cm}}$

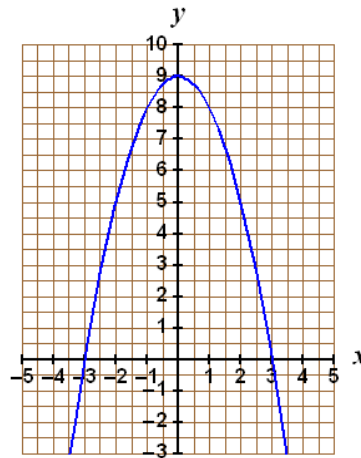
For #21-22, a quadratic function and its graph are shown. Identify the solutions, or roots, of the related quadratic equation.

21.)  $f(x) = x^2 - x - 12$



Solve:  $x = \underline{\hspace{1cm}}$  or  $\underline{\hspace{1cm}}$

22.)  $y = -x^2 + 9$



Solve:  $x = \underline{\hspace{1cm}}$  or  $\underline{\hspace{1cm}}$

For #23-24, translate and solve.

23.) One less than a positive number times three more than that number is 32. Find the number.

Let  $n = \underline{\hspace{1cm}}$        $(\underline{\hspace{1cm}})(\underline{\hspace{1cm}}) = \underline{\hspace{1cm}}$

24.) The length of a rectangle is three centimeters less than the width. If the area of the rectangle is  $54\text{cm}^2$ , find the dimensions of the rectangle.

25.) Explain why  $x^2 + 81 = 0$  DOES NOT have a real solution.

26.) Which method can't you use to solve this problem?  $x^2 - 47 = 0$

Circle one:            Factoring            Square Roots            Quadratic Formula

Explain why:

27.) Which method can't you use to solve this problem?             $x^2 + 7x = 0$

Circle one:            Factoring            Square Roots            Quadratic Formula

Explain why:

28.) Which method can you use to solve all quadratic equations?

Circle one:            Factoring            Square Roots            Quadratic Formula

Explain why:

29.) What are the **two mistakes** in setting up the quadratic formula:

Solve:  $2x^2 - x - 6 = 0$              $x = \frac{-1 \pm \sqrt{(-1)^2 - 4(2)(6)}}{2(2)}$