

**3.1****Assignment**

Solve each equation by factoring.

1.  $x^2 - 4x - 12 = 0$

2.  $x^2 - 20x + 100 = 0$

3.  $x^2 - 6x + 8 = 0$

4.  $x^2 - 9x + 14 = 0$

5.  $x^2 - 4x = 0$

6.  $x^2 + 25 = 10x$

7.  $10x^2 = 9x$

8.  $x^2 = 2x + 99$

**BACK SIDE!**

9.  $x^2 + 12x = -36$

10.  $5x^2 - 35x + 60 = 0$

11.  $36x^2 = 25$

12.  $2x^2 - 8x - 90 = 0$

**Write a quadratic equation with the given roots. Write the equation in the form  $ax^2 + bx + c = 0$ , where  $a$ ,  $b$ , and  $c$  are integers.**

13. 7, 2

14. 0, 3

15. -5, 8

16.  $\frac{1}{3}$ , -3

17.  $-\frac{2}{3}$ ,  $-\frac{4}{5}$

18. The length of a rectangle is 2 feet more than its width. Find the dimensions of the rectangle if its area is 63 square feet.

**3.2****Assignment**

For each quadratic equation, find the value of the discriminant, describe the number and type of roots, and find the exact solutions by using the Quadratic Formula.

1.  $x^2 - 16x + 64 = 0$

2.  $x^2 = 3x$

3.  $9x^2 - 24x + 16 = 0$

Discriminant: \_\_\_\_\_

Discriminant: \_\_\_\_\_

Discriminant: \_\_\_\_\_

# and type of roots: \_\_\_\_\_

# and type of roots: \_\_\_\_\_

# and type of roots: \_\_\_\_\_

Exact solutions: \_\_\_\_\_

Exact solutions: \_\_\_\_\_

Exact solutions: \_\_\_\_\_

4.  $x^2 - 3x = 40$

5.  $3x^2 + 9x - 2 = 0$

6.  $2x^2 + 7x = 0$

Discriminant: \_\_\_\_\_

Discriminant: \_\_\_\_\_

Discriminant: \_\_\_\_\_

# and type of roots: \_\_\_\_\_

# and type of roots: \_\_\_\_\_

# and type of roots: \_\_\_\_\_

Exact solutions: \_\_\_\_\_

Exact solutions: \_\_\_\_\_

Exact solutions: \_\_\_\_\_

**BACK SIDE**

7.  $5x^2 - 2x + 4 = 0$

8.  $12x^2 - x - 6 = 0$

9.  $7x^2 + 6x + 2 = 0$

Discriminant: \_\_\_\_\_

Discriminant: \_\_\_\_\_

Discriminant: \_\_\_\_\_

# and type of roots: \_\_\_\_\_

# and type of roots: \_\_\_\_\_

# and type of roots: \_\_\_\_\_

Exact solutions: \_\_\_\_\_

Exact solutions: \_\_\_\_\_

Exact solutions: \_\_\_\_\_

10.  $12x^2 + 2x - 4 = 0$

11.  $6x^2 - 2x - 1 = 0$

12.  $x^2 + 3x + 6 = 0$

Discriminant: \_\_\_\_\_

Discriminant: \_\_\_\_\_

Discriminant: \_\_\_\_\_

# and type of roots: \_\_\_\_\_

# and type of roots: \_\_\_\_\_

# and type of roots: \_\_\_\_\_

Exact solutions: \_\_\_\_\_

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