

## Chapter 10 Objectives

10.1 #1 – Solve By Factoring

10.1 #2 – Solve By Extracting Square Roots

10.1 #3 – Solve By Completing The Square

10.2 #1 – Solve By Quadratic Formula

10.2 #2 – Determining Types Of Solutions From Discriminant

10.3 #1 – Area Of A Rectangle

10.3 #2 – Pythagorean Theorem

10.3 #3 – Projectile Motion

10.4 #1 – U-Substitution

10.4 #2 – Radical Equations

10.4 #3 – Rational Equations

1. Solve by factoring:  $x^2 + 10x - 24 = 0$

2. Solve by extracting roots:  $(x + 9)^2 + 42 = 30$

3. Solve by completing the square:  $x^2 + 42x - 400 = 0$

4. Solve by using the quadratic formula:  $\frac{1}{3}x^2 + 2x - \frac{3}{4} = 0$

5. Determine the number and type of solutions from the discriminant:  $8x^2 - 13x + 5 = 0$

6. The width of a rectangle is 3 foot less than twice its length, and the area of the rectangle is 150 square feet. Find the length and width. (Round to the nearest tenth.)

7. A TV screen is 24 inches tall and 36 inches wide. How long is its diagonal? (Round to the nearest tenth.)

8. A projectile is launched upward from the ground with an initial velocity of 80 feet per second. How long will it take to land on the ground?

9. A projectile is launched upward from a platform that is 96 feet above the ground with an initial velocity of 128 feet per second. After how many seconds will the object be 160 feet above the ground? (Round to the nearest tenth.)

10. Solve by u-substitution:  $x^4 - 8x^2 - 9 = 0$

11. Solve by u-substitution:  $x^2 + 6\sqrt{x} - 16 = 0$

12. Solve  $\sqrt{2x + 5} = 5x - 7$ .

13. Solve  $3 - \frac{2}{x} - \frac{8}{x^2} = 0$ .