

Quadratic Formula: \_\_\_\_\_

Use the quadratic formula to solve the equation. Write your answers in simplest radical form, if necessary.

11.	12.
13.	14.
18.	20.

Determine the number of real solutions of the equation.

26.	28.	30.
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Find the number of  $x$ -intercepts of the graph of the function.

32.	33.	34.
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52. Find the dimensions of the rectangle.

A. **Use the Falling Object Model,  $h_t = -16t^2 + v_0t + h_0$ , to answer the following.**

A kicker punts a football from a height of 3 feet above the ground with an initial vertical velocity of 45 feet per second. How many seconds will it take before the ball hits the ground? Round to the nearest hundredth.

**Algebra 1**  
**9.5 Worksheet #2**

Name \_\_\_\_\_ KEY \_\_\_\_\_

**Quadratic Formula:**  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

**Use the quadratic formula to solve the equation. Write your answers in simplest radical form, if necessary.**

11. $\{-1, 11\}$	12. $\left\{-\frac{1}{2}, 1\right\}$
13. No Real Solution	14. $\left\{\frac{1}{3}\right\}$
18. $\left\{\frac{5-\sqrt{13}}{2}, \frac{5+\sqrt{13}}{2}\right\}$	20. $\left\{\frac{2-\sqrt{14}}{5}, \frac{2+\sqrt{14}}{5}\right\}$

**Determine the number of real solutions of the equation.**

26. disc = 37 ; 2 real solutions	28. disc = 0 ; one real solution	30. disc = -116 ; no real solution
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**Find the number of x-intercepts of the graph of the function.**

32. disc = 0 ; 1 x-intercept	33. disc = -87 ; no x-intercept	34. disc = 77 ; 2 x-intercepts
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52. $x = 5$ ; length = 19 feet ; width = 11 feet
A. $\approx 2.88$ seconds