

11.3 Use Square Roots to Solve Quadratics Equations

NOTES

Solve

Solve

$$8 = 2x^2$$

Solve

What causes a quadratic equation to have no solution?

Holiday Park has a ride that carries you up 250 feet above the ground then drops you. If the brakes on this ride failed, when would crash into the ground? $s(t) = -16t^2 + vt + h$

- If the brakes on this ride failed, when would you crash into the ground?

“friendly” window

$x_{\min} =$ $y_{\min} =$

$x_{\max} =$ $y_{\max} =$

$x_{\text{scl}} =$ $y_{\text{scl}} =$



11.3 PRACTICE

Solve the equation.

1. $3x^2 - 3 = 0$

2. $4x^2 - 400 = 0$

3. $15d^2 = 0$

4. $4g^2 + 10 = 11$

5. $9q^2 - 35 = 14$

6. $3z^2 - 18 = -18$

Multiple Choice

7. Which of the following is a solution of the equation $61 - 3n^2 = -14$?

A. 5

B. 10

C. 25

D. 625

Solve the equation. Give the exact answer and approximate rounded to the nearest hundredth.

8. $x^2 + 6 = 13$

9. $14 - x^2 = 17$

10. $4 - k^2 = 4$

11. $53 = 8 + 9m^2$

12. $7c^2 = 100$

13. $4b^2 - 5 = 2$

11.3 Application

QUICK REVIEW

MULTIPLY

1. $(3x - 5)^2$

FACTOR

2. $x^2 + 6x + 9$

FACTOR

3. $x^2 + 19x + 60$

Solve

1. Solve $3x^2 - 1 = 20$

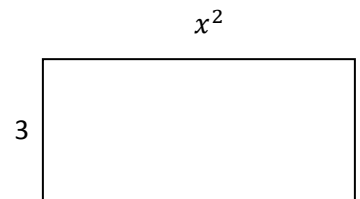
2. Solve $7 - y^2 = 3$

Use the given rectangle to answer #3 and #4.

3. If the rectangle has a **PERIMETER** of 120 inches.

a. Write an equation to represent this.

b. Solve for x !



4. If the rectangle has an **AREA** of 54 in^2 .

a. Write an equation to represent this.

b. Solve for x !

5. A ball is dropped from the top of a 1096-foot building. The distance s (in feet) of the ball from the ground after t seconds is given by the formula $s(t) = -16t^2 + 1096$

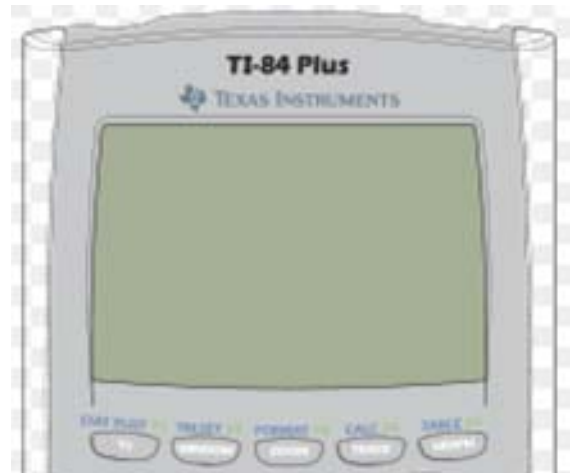
a. Fill in the table.

t	$s(t)$
0	
5	
8	
	520
	900

b. What does $s(3.2)$ mean? Find it!

c. Graph in a “friendly window” so that you can see the ball hit the ground. Sketch the graph.

xmin = yminx =
 xmax = ymax =
 xscl = ysc1 =



d. What is the maximum height of the ball?



e. When does the ball hit the ground?

Coming Up...

1. $(\sqrt{8})^2 =$

2. $\sqrt{11} \cdot \sqrt{11} =$

3. Find the area.

