Name:_____ Date:_____Period:_____

NOTES: SOLVE QUADRATICS USING the Square Root Method

$ax^2 + c = 0$

When there is <u>no "x" term</u> in a quadratic equation, you can solve using the square root method.

1. Isolate _____

2. Take the _____ of both sides.

Example: $x^2 - 64 = 0$

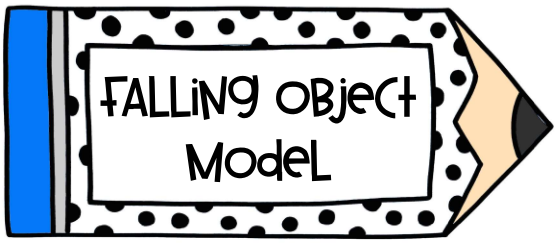
Can write answer as: or { , }

Solve using the square root method. Round to the nearest hundredth, if necessary.

1. $x^2 - 81 = 0$	**2.** $2x^2 - 200 = 0$	**3.** $4x^2 = 25$
4. $3x^2 = 27$	**5.** $-2x^2 = -288$	**6.** $x^2 - 7 = -6$

7. $x^2 + 8 = 2$	**8.** $\frac{1}{2}x^2 = 18$	**9.** $5x^2 = 100$
10. $2x^2 - 140 = 0$	**11.** $\frac{3}{5}x^2 + 15 = 21$	**12.** $\frac{1}{2}(x^2 + 75) = 50$

Applications Using the Square Root Method



$$h = -16t^2 + s$$

h = _____

t = _____

s = _____

Use the falling object model to solve. Round to the nearest hundredth.

13. Sarah drops an egg from a height of 42 feet off the ground. How long does it take for the egg to hit the ground?

14. Ella is walking across a bridge and accidentally drops her watch. The bridge is 80 feet above the water. How long does it take her watch to reach the water?

Name:_____ Date:_____ Period:_____

A.___ SOLVE QUADRATICS USING the Square Root Method

WHAT DO YOU CALL A DUCK THAT GETS ALL A'S?

Use the square root method to solve each problem. Write the letter of the correct answer in the box containing the question number.

1. $x^2 = 225$

2. $5x^2 = 55$

3. $6x^2 - 9 = 27$

4. $8x^2 - 40 = -8$

5. $70 - 2x^2 = 0$

6. $6x^2 + 4 = -36$

7. $\frac{1}{3}x^2 + 4 = 16$

8. $\frac{x^2}{4} - 20 = 3$

9. $36x^2 = 49$

10. $4 - \frac{1}{2}x^2 = -8$

11. $3x^2 + 11 = 203$

12. $\frac{3}{4}(x^2 - 13) = 9$

13. $49x^2 - 99 = -98$

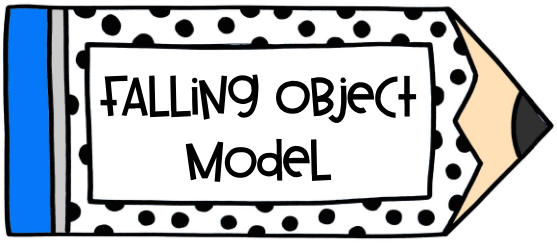
14. $4x^2 - 121 = 0$

Answers!

K	± 5
E	± 4.9
M	± 6.88
I	± 9.59
S	± 15
U	$\pm \frac{11}{2}$
	± 5.92
P	± 10
Q	± 8
W	No Solution
E	$\pm \frac{7}{6}$
L	± 23.2
T	± 1
C	± 2
R	± 6
A	$\pm \frac{1}{7}$
	± 3.32
B	± 12.2
A	± 2.45

3	2	6	8	1	9	5	11	14	13	4	12	10	7

Applications Using the Square Root Method



$$h = -16t^2 + s$$

h = _____

t = _____

s = _____

Use the falling object model to solve the problems below. Round to the nearest hundredth, if necessary.

15. A diver steps off a 25-foot diving board and lands in the water. How long does it take the diver to hit the water?

16. Jacob drops a ball from a fifth story balcony that is 50 feet from the ground. How long does it take for the ball to reach the ground?

17. Clay drops a water balloon from a 20-foot platform onto Bailey's head, who is four feet tall. How long does it take for the water balloon to reach Bailey's head?