

### 3.1 Solving Quadratics by Square Root Method CYU DAY THREE

Use when you get it right all by yourself  
*S* Use when you did it all by yourself, but made a silly mistake  
*H* Use when you could do it alone with a little help from teacher or peer  
*G* Use when you completed the problem in a group  
*X* Use when a question was attempted but wrong (get help)  
*N* Use when a question was not even attempted

CONCEPTS	BASIC	INTERMEDIATE	ADVANCED
Solving Quadratics using the Square Root Method	6, 7, 8, 10, 13, 14, 15, 16, 19	1, 2, 3, 4, 5, 9	11, 12, 17, 18, 20
Simplifying Square Roots	1, 2	3, 4, 5	11, 12, 17, 18, 20

**I. THIRD way: Square Root Method.** Solve each equation by using the square root method. Show all work for full credit. Simplify your answer completely.

1.  $r^2 = 96$

$r = \pm 4\sqrt{6}$

7.  $a^2 + 1 = 2$

$a = \pm 1$

2.  $x^2 = 7$

$x = \pm \sqrt{7}$

8.  $n^2 - 4 = 77$

$n = \pm 9$

3.  $x^2 = 29$

$x = \pm \sqrt{29}$

9.  $m^2 + 7 = 6$

$m = \sqrt{-1} = i \quad \emptyset \text{ (for now)}$

non-real / imaginary solution

4.  $r^2 = 78$

$r = \pm \sqrt{78}$

5.  $b^2 = 34$

$b = \pm \sqrt{34}$

10.  $x^2 - 1 = 80$

$x = \pm 9$

6.  $x^2 = 0$

$x = 0$

11.  $4x^2 - 6 = 74$

$$x = \pm 2\sqrt{5}$$

16.  $(2k - 1)^2 = 9$

$$k = 2, -1$$

12.  $3m^2 + 7 = 301$

$$m = \pm 7\sqrt{2}$$

17.  $(6x + 2)^2 + 4 = 28$

$$x = \frac{-2 \pm 2\sqrt{6}}{6} = \boxed{\frac{-1 \pm \sqrt{6}}{3}}$$

13.  $7x^2 - 6 = 57$

$$x = \pm 3$$

18.  $10(x - 7)^2 = 440$

$$x = 7 \pm 2\sqrt{11}$$

14.  $10x^2 + 9 = 499$

$$x = \pm 7$$

19.  $9(2m - 3)^2 + 8 = 449$

$$m = 5, -2$$

15.  $(p - 4)^2 = 16$

$$p = 8, 0$$

20.  $4(6x - 1)^2 - 5 = 223$

$$x = \frac{1 \pm \sqrt{57}}{6}$$

**CYU Reflection:** How far can you go: basic, intermediate, or advanced?

**Rate your mastery level!**

How confident are you with the skills this CYU covered? Circle the score you would give yourself.

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1	2	3	4	5	6	7	8
Basic		Intermediate			Advanced		