

Problem-Solving Roots Answer Key

1. Ronaldo wants a large picture window put in the living room of his new house. The window is to be square with an area of 49 square feet. How long should each side of the window be? **7 ft**
2. If the area of a square is 81 square meters, how many meters long is each side? **9m**
3. A miniature portrait of LeBron James is square and has an area of 169 square centimeters. How long is each side of the portrait? **13 cm**
4. Codi is baking a square cake for his friend's wedding. When served to the guests, the cake will be cut into square pieces 1 inch on a side. The cake should be large enough so that each of the 121 guests gets one piece. How long should he make each side of the cake? **11 in.**
5. Kara has 196 marbles that she is using to make a square formation. How many marbles should be in each row? **14 marbles**
6. Tate is planning to put a square garden with an area of 289 square feet in his backyard. What will be the length of each side of the garden? **17 ft**
7. Baz has 324 square paving stones that he plans to use to construct a square patio. How many paving stones will make up the width of the patio? **18 stones**

Find each square root.

8. $-\sqrt{400} = -20$

9. $\sqrt{36} = 6$

10. $\pm\sqrt{0.04} = \pm 0.2$

11. $\sqrt{\frac{49}{64}} = \frac{7}{8}$

Solve each equation.

12. $256 = s^2$ **16 or -16**

13. $t^2 = \frac{25}{121}$ **$\frac{5}{11}$ or $-\frac{5}{11}$**

14. $900 = y^2$ **30 or -30**

15. $l^2 = \frac{144}{169}$ **$\frac{12}{13}$ or $-\frac{12}{13}$**