

Square Root Sprint

Find the side length hidden in each perfect square.

GRADE 7 • 7.NS.3.a

7.NS.3.a "Determine the positive square root of a perfect square from 0 to 400.*"

NAME _____

DATE _____

SQUARE ROOT RULE

The positive square root of a perfect square is the number that multiplies by itself to make that square. If $a \times a = b$, then $\sqrt{b} = a$ when a is not negative. The square root of 0 is 0.

WORKED EXAMPLE

Find $\sqrt{144}$.

1. Find two equal factors of 144.
2. $12 \times 12 = 144$.
3. Therefore, $\sqrt{144} = 12$.

Answer: 12

PRACTICE 6 problems

1 Find $\sqrt{81}$.

ANSWER _____

2 Find $\sqrt{196}$.

ANSWER _____

3 Find $\sqrt{0}$.

ANSWER _____

4 Find $\sqrt{400}$.

ANSWER _____

5 Find $\sqrt{225}$.

ANSWER _____

6 Find $\sqrt{49}$.

ANSWER _____

APPLY IT Show your work

- 1** The school esports club is making a square poster with an area of 324 square inches. What is the length of one side?

WORK SPACE

ANSWER _____

- 2** Jayden designs a square garden in a game. It covers 121 square tiles. How many tiles are along each side?

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

A square photo has an area of 289 square centimeters. A 1-centimeter-wide border is added around the outside. What is the perimeter of the outside edge of the new frame?

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Find $\sqrt{81}$.	9
2	Find $\sqrt{196}$.	14
3	Find $\sqrt{0}$.	0
4	Find $\sqrt{400}$.	20
5	Find $\sqrt{225}$.	15
6	Find $\sqrt{49}$.	7

PART 2 • APPLY IT

1. **18 inches** A square's area is side $\times$ side. Since $18 \times 18 = 324$, one side is 18 inches.
2. **11 tiles** The number of tiles along one side is $\sqrt{121}$. Since $11 \times 11 = 121$, there are 11 tiles along each side.

CHALLENGE

76 centimeters

Accept answers with correct units. For each square root, accept a correct multiplication check, such as $n \times n =$ the given square, and accept 0 for $\sqrt{0}$.