

Square Roots

1. What positive value of x makes the following equation true: $x^2 = 289$? Check your solution.

2. A square-shaped park has an area of 400 yd^2 . What are the dimensions of the park? Write and solve an equation.

3. Find the positive value of x that makes the equation true: $x^2 = 441^{-1}$. Check your solution.

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Square Roots

1. What positive value of x makes the following equation true: $x^2 = 289$? Check your solution.

$$\begin{aligned}x^2 &= 289 \\ \sqrt{x^2} &= \sqrt{289} \\ x &= \sqrt{289} \\ x &= 17\end{aligned}$$

Check:

$$\begin{aligned}17^2 &= 289 \\ 289 &= 289\end{aligned}$$

2. A square-shaped park has an area of 400 yd^2 . What are the dimensions of the park? Write and solve an equation.

$$\begin{aligned}x^2 &= 400 \\ \sqrt{x^2} &= \sqrt{400} \\ x &= \sqrt{400} \\ x &= 20\end{aligned}$$

Check:

$$\begin{aligned}20^2 &= 400 \\ 400 &= 400\end{aligned}$$

3. Find the positive value of x that makes the equation true: $x^2 = 441^{-1}$. Check your solution.

$$\begin{aligned}x^2 &= 441^{-1} \\ \sqrt{x^2} &= \sqrt{441^{-1}} \\ x &= \sqrt{441^{-1}} \\ x &= \sqrt{\frac{1}{441}} \\ x &= \frac{1}{21} \\ x &= 21^{-1}\end{aligned}$$

Check:

$$\begin{aligned}(21^{-1})^2 &= 441^{-1} \\ 21^{-2} &= 441^{-1} \\ \frac{1}{21^2} &= 441^{-1} \\ \frac{1}{441} &= 441^{-1} \\ 441^{-1} &= 441^{-1}\end{aligned}$$