

Basic Square Root Equations

Introduction

This worksheet focuses on solving basic square root equations. Remember, the square root of a number is a value that, when multiplied by itself, gives the original number. For example, the square root of 25 is 5 because $5 \times 5 = 25$.

Essential Questions

1. What is a square root?
2. How do you solve equations involving square roots?

Multiple Choice Questions

1. What is the value of $\sqrt{49}$?
 - a) 6
 - b) 7
 - c) 8
 - d) 9
2. Which of the following numbers has a square root of 4?
 - a) 8
 - b) 12
 - c) 16
 - d) 20
3. If $x^2 = 36$, what is x when considering only positive solutions?
 - a) 5
 - b) 6
 - c) 7
 - d) 8
4. What is $\sqrt{81}$?
 - a) 8
 - b) 9
 - c) 10
 - d) 11

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5. Which equation is true?

a) $\sqrt{64} = 7$

b) $\sqrt{25} = 4$

c) $\sqrt{36} = 6$

d) $\sqrt{9} = 4$

Fill in the Blank Questions

1. The square root of 100 is _____.

2. $\sqrt{121} = \underline{\hspace{2cm}}$.

3. If $x^2 = 49$, then $x = \underline{\hspace{2cm}}$.

4. $\sqrt{1} = \underline{\hspace{2cm}}$.

True/False Questions

1. True or False: $\sqrt{81} = 8$

2. True or False: $\sqrt{9} = 3$

3. True or False: $x^2 = 16$ has a positive solution of 4.

4. True or False: $\sqrt{4} = 3$

Short Answer Questions

1. Explain what a square root is in your own words.

2. Solve for x : $x^2 = 64$ (positive solution only).

3. Give an example of a number whose square root is an integer, and explain why.

Answer Key

Essential Questions:

1. A square root is a value that, when multiplied by itself, gives the original number.
2. By isolating the square root and squaring both sides or finding the number whose square equals the given value.

Multiple Choice Answers:

1. b) 7
2. c) 16
3. b) 6
4. b) 9
5. c) $\sqrt{36} = 6$

Fill in the Blank Answers:

1. 10
2. 11
3. 7
4. 1

True/False Answers:

1. False - $\sqrt{81} = 9$
2. True
3. True
4. False - $\sqrt{4} = 2$

Short Answer Sample Answers:

1. A square root is a number that, when multiplied by itself, equals the original number.
2. $x = 8$
3. Example: 36, because $\sqrt{36} = 6$ and 6 is an integer.