

Name _____ Class: _____ Date _____

Assignment #1 (1.1-1.2) – Squares and Square roots

1. Find the area of a square with each side length. Show your work.

a) 7 units = _____ = _____ b) 11 units = _____ = _____

2. Show that 16 is a square number using a diagram, symbols, and words.

3. Which of these numbers is a perfect square? Show how you know?

a) 14

b) 60

c) 36

4. Are these numbers perfect squares? If not show the consecutive perfect squares that surrounds the number.

a) 7

b) 30

c) 50

d) 90

5. I am a two-digit square number. The sum of my digits is 13.
What square number am I?

6. A square patio has an area of 225 m^2 .

a) Find the side length of the patio.

b) The owner wants to put lights around the patio. How many metres of lighting is needed? (show your work)

c) Each string of lights is sold as a 25 m long string. How many strings of lights are needed to surround the patio?

7. Find.

a) $6^2 =$ _____

b) $\sqrt{121} =$ _____

c) $\sqrt{5^2} =$ _____

9. The factors of each number **are listed** in ascending order. Which numbers are square numbers?

a) 216: 1, 2, 3, 4, 6, 8, 9, 12, 18, 24, 27, 36, 54, 72, 108, 216

b) 196: 1, 2, 4, 7, 14, 28, 49, 98, 196

c) 441: 1, 3, 9, 21, 49, 147, 441

10. a) List the factors of each number in ascending order.

Which numbers are squares? How do the factors let you know?

i) 70

ii) 144

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b) List the factors as a factor tree. Determine which are perfect squares

i) 86

ii) 64

12. Find the **square root** of each number.

a) $12^2 =$ _____

b) $225 =$ _____

c) $4 =$ _____

13. Find the square of each number.

a) $\sqrt{9} =$ _____

b) $9 =$ _____

c) $12 =$ _____

14. Kings Court is played on a square court where each side is 4 m. A square gymnasium has an area of 256m^2 . How many full courts can fit into the gym?