Math 8

Video: <http://www.youtube.com/watch?v=asbA32NAO3Y>

Pythagorean Relationship

Lesson 3.1 – Squares and Square Roots

Definitions:

The product of number by itself is called a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

When we multiply a number by itself, we say we *\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*the number.

Since 3 $×$ 3 = 32 = 9, the number 3 is called the *\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*of 9.

We write

A \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is a whole number greater than 1 that has

only two factors: 1 and itself

Examples: 13, 7, 23….

A perfect square for whole numbers is……

 any whole number that can be expressed as the square of another whole number.

Evaluate:

a)  b) 

c)  d) 

What is the area of a square that has a side length of 10?

What is the square root of 100?

Interesting…..

What is the square of 11?

What is the square of 18?

a) What is the area of a square with the side length of 4 cm?

b) What is the area of a square with the side length of 21 m?

What is the side length of these two squares?

A = 49 mm2

A = 64 cm2

In this list of whole numbers, circle the numbers that are perfect squares: 24 25 45 59 64 100.

Determine all of the factors by determining factor pairs (the product of the factor pair is equal to the number) for each of the numbers above. Use a Factor Tree:

Discussion:

1. Which numbers have an even number of factors?

2. Which numbers have an odd number of factors?

3. What do you notice about the factors of perfect squares?

4. How could you determine the square root of a perfect square from your list of factor pairs?