Ch: 1.0 Square Numbers and Area Models Investigation

1) Modelling

Can you draw a "perfect" square with the following areas? If so, draw the square and label the side lengths.

a) 8 16

b) For which areas were you able to make a "perfect" square (with whole number side lengths)?

c) Why were you not able to make a "perfect" square (with whole number side lengths) with EVERY area?

2) Extension (Think for yourself!)

In addition to finding the area of a square we can also find the perimeter. We find perimeter by _____.

Visualize a square with a side length of 3. Its area is _____. Its perimeter is _____.

When you take a whole number (like 3) and multiply it by itself, you get the area. Since the area is also whole number, it is called a **perfect square number.**

Is 9 a perfect square number? _____

Is 12 a perfect square number? _____

Why does finding the perimeter give us a different type of # than we get when we find the area?

_____

3) Definition & Notation

When you multiply a number by itself, you _____ the number.

We can write this in MANY different ways!

WORDS and MATHEMATICAL NOTATION

- Six _____ six is thirty-six.
- Six _____ is thirty-six.
- The _____ of 6 is _____.
- _____ x _____ = _____
- _____ = _____

4) Practice!

a) Draw two squares and label the side lengths (they must have a side length of greater than 6). Calculate the AREA of each square. Are they perfect square numbers? Show your work and include units!

b) Find & record the PERIMETER of each square. Are they perfect square numbers? Show your work and include units!

5) Summary – Identifying the BIG Ideas

A **perfect square number** can always be represented by an area of a square with side lengths that are _____.

Squaring a number means _____.

The difference between find the area of a square & the perimeter of a square is _____.