Unit 8, Lesson 3

Squares and Equations

Let's explore squares.

3.1 Math Talk: Squaring Values

Find the value of each expression mentally.

- 7^2
- $(-7)^2$
- -7^2
- $(-\frac{2}{5})^2$

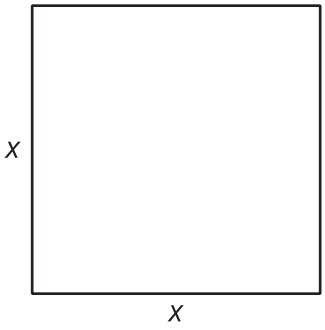
3.2 Squares with Squares

Let $p^2 = q$.

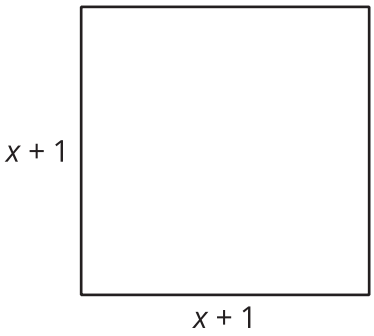
1. Select all pairs of values that could be p and q.
   - $p = 6, q = 36$
   - $p = -6, q = 36$
   - $p = -2, q = -4$
   - $p = -10, q = 100$
   - $p = \frac{1}{2}, q = \frac{1}{4}$
   - $p = -0.2, q = 0.4$
2. List one other possible pair of values for p and q that make the equation true.

3. Use the diagrams to find the value of the side length for each square, then find the value for x.

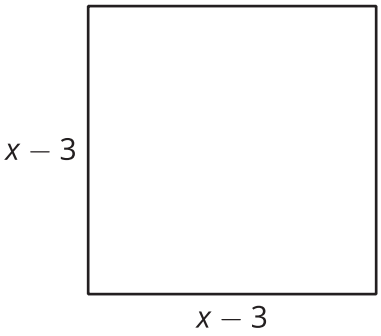
   a. The square has an area of 25.



   b. The square has an area of 36.



   c. The square has an area of 100.



3.3 Matching Solutions and Equations

Here are some equations and a list of numbers. Which numbers are solutions to which equations?

1. $c^2 = 121$
2. $5 \cdot d^2 = 500$
3. $80 = m^2 - 1$
4. $100 = (n + 3)^2$

- -13
- -11
- -10
- -9
- -7
- 7
- 9
- 10
- 11
- 13