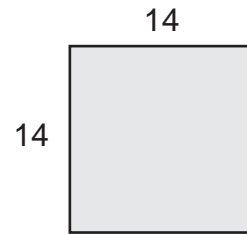


Square Deal

Name _____

The area of a square is found by multiplying the length of a side by itself.

Area of the given square = 14 units x 14 units = 196 square units



Find the area of a square with given side measures.

side measure	area
1. 28 units	
2. 36 units	
3. 44 units	

If you know the area of the square and need to find the dimension of the side, the $\sqrt{\quad}$ on the calculator can be used. Square root ($\sqrt{\quad}$) tells you what number multiplied by itself gives the indicated value. Since the sides of a square have equal measure, the area is the product of a number times itself.

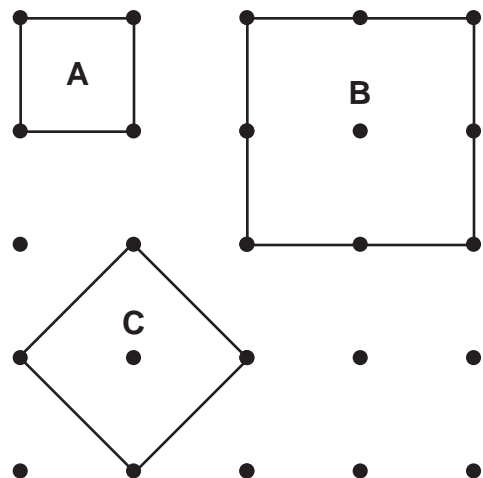
If the area of a square is 441 square units, what is the length of the side?

Enter: 441 $\sqrt{\quad}$ The calculator displays 21.

A square with side measure 21 units has an area of 441 square units.

Use your calculator to find the length of a side of a square with given area.

Area	Measure of a side
4. 361 square units	
5. 1024 square units	
6. 5329 square units	
7. 2916 square units	
8. 200 square units	
9. 156.25 square units	



Thinking Cap

If the area of square A = 1 square unit and the area of square B = 4 square units, find the area of square C and the length of the side of square C.

TEACHER NOTES: *Square Deal*

Objective: To use the square root key to find the measure of the side of a square of given area.

Grade Level: 5-6

Topic: *Geometry and Measurement*

Using the Activity:

The focus of this activity is to have students learn how to use the square root key on the calculator to find the length of a side of a square of given area. The activity begins with a review of how to find the area of a square. The formula typically used is $A = s^2$, where s is the measure of a side of the square. Since the SL-450 doesn't have a x^2 key, the area is computed by multiplying the side measure times itself.

The second part of the activity reverses the process, investigating the use of the $\sqrt{\quad}$ key. Finding the square root of a number is the inverse process to squaring a number. Hence, since the area represents the square of the side measure, to find the side measure you take the square root of the area. After finding the square root of the area, students should square the number to verify that the two processes are inverses of each other.

There are many numbers that students ought to be able to find the square root of without having to use the calculator. For example, the square root of 49 is 7, since $7 \times 7 = 49$. Ask students to tell you the square roots of 16, 25, 64, and 81 without using the calculator.

*Answers: 1. 784 square units; 2. 1296 square units; 3. 1936 square units;
4. 19 units; 5. 32 units; 6. 73 units; 7. 54 units; 8. 14.142135 units or 14.1 units
9. 12.5 units*

Thinking Cap

In this section, students should recognize that the area of C is greater than the area of A, but less than the area of B. Hence the area of C must be between 1 and 4. Visually, if the area of C is subdivided into 4 triangular regions by introducing the diagonals, the students should see that the 4 resulting regions can be combined to form 2 unit squares. Hence, the area is 2 square units. Using the $\sqrt{\quad}$ on the calculator, it follows that the length of the side to the nearest hundredth is 1.41 units.