

Math Lab: Investigating a Difference of Squares Possible Solutions

Procedure

Step 1: 100 square units occupy the 10×10 square.

Step 2: 36 square units occupy the 6×6 square.

Step 3: The remaining area is 64 square units.

Step 5: The length of the new rectangle is 16 units, and the width is 4 units.

length = $(10 + 6)$ units; width = $(10 - 6)$ units

Step 6: The following is the completed table that the student should have after finishing step 6.

Dimensions of Original Square	Dimensions of Removed Square	Rectangle Length	Rectangle Width	Rectangle Area
10×10	6×6	16	4	64
8×8	3×3	11	5	55
7×7	4×4	11	3	33
5×5	2×2	7	3	21

Analysis

1. length = original side + side of removed square

For example, the length of first square = $10 + 6 = 16$.

2. width = original side – side of removed square

For example, the width of first square = $10 - 6 = 4$.

- 3.

Dimensions of Original Square	Dimensions of Removed Square	Area = (Length) $\times$ (Width)
20×20	11×11	$(20 + 11)(20 - 11) = 31 \times 9 = 279$
55×55	15×15	$(55 + 15)(55 - 15) = 70 \times 40 = 2800$