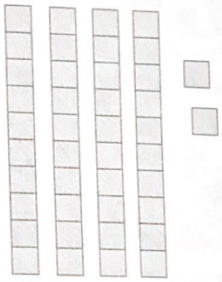
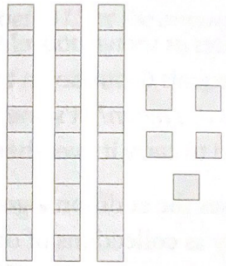
Under the Mat

Task: *There are 25 squares under the card. How many squares are there altogether?*



Response: *[After counting ten squares on one ten-block]* 25; 35, 45, 55, 65; 66, 67.

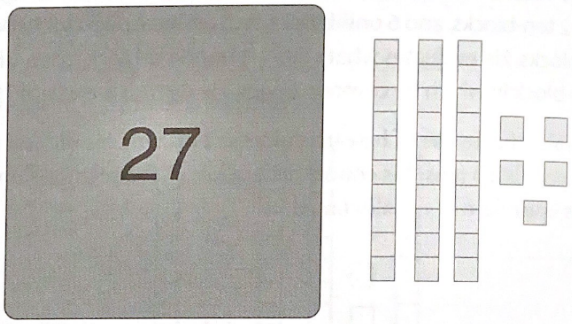
Task: *There are 27 squares under the mat. How many squares are there altogether?*



Response: *[Pointing at the mat]* 10, 20 *[pointing at the ten-strips then individual squares]* 30, 40, 50; 55 *[pointing back to the mat]* 56, 57, 58, 59, 60, 61, 62.

This student counted the tens first, then the ones, using visual materials.

Task: *There are 27 squares under the mat. How many squares are there altogether?*



Response: 27 plus 35. *[Writes in vertical format and gets 512 as the answer.]*

$$\begin{array}{r} 27 \\ +35 \\ \hline 512 \end{array}$$

Same Task:

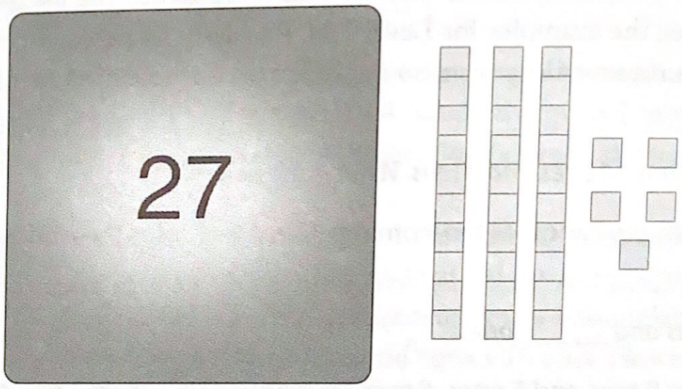
Response 1: *[Pointing at the ten-strips then the individual squares]* 27; 37, 47, 57; 58, 59, 60, 61, 62.

This student counts by tens starting at 27, but uses the visual material to do so.

Response 2: 27 *[raising 3 fingers]* 37, 47, 57 *[raising 5 fingers]* 58, 59, 60, 61, 62.

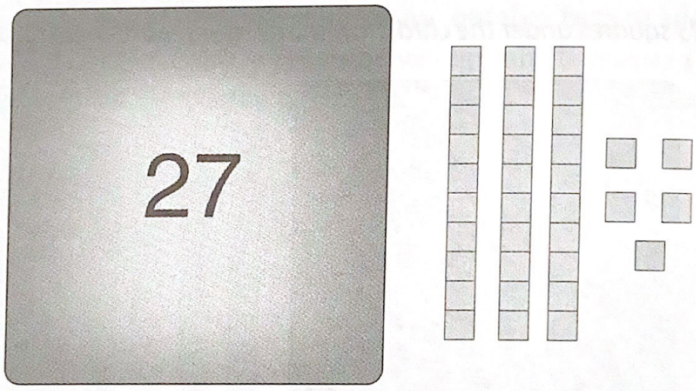
Because this student uses his fingers rather than the given pictorial material, his thinking is more sophisticated than if he had used the given pictures by pointing to them.

Task: *There are 27 squares under the mat. How many squares are there altogether?*



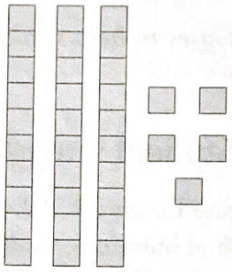
Response: 3 tens plus 2 more tens from the 27 is 5 tens or 50; 7 plus 5 is 12. 62.
[Teacher: How do you know you're correct?] 10, 20, 30, 40, 50 plus 12 is 62.

Task: *There are 27 squares under the mat. How many squares are there altogether?*



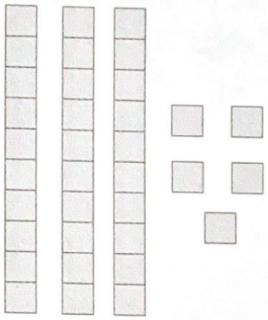
Response: 27 *[raising fingers on one hand]*, 37, 47, 57 *[raising fingers on the other hand]*, 58, 59, 60, 61, 62.

Task: *There are 27 squares under the mat. How many squares are there altogether?*



Response: 3 tens plus 2 more tens from the 27 is 5 tens; 7 plus 5 is one more ten, so t
tens, and 2. So 62.

Task: *There are 27 squares under the mat. How many squares are there altogether?*



Response: *[Pointing at the mat]* 20 *[pointing at the ten-strips],* 30, 40, 50, 55 *[pointing back to the mat],* 56, 57, 58, 59, 60, 61, 62.

This student counted the tens first then the ones.