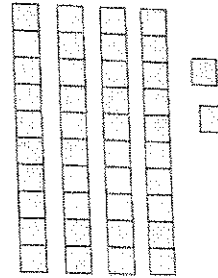
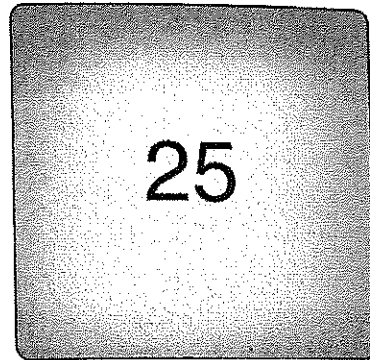


Under the Mat

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

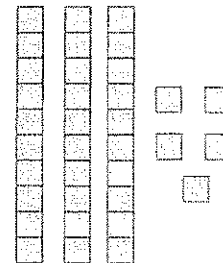
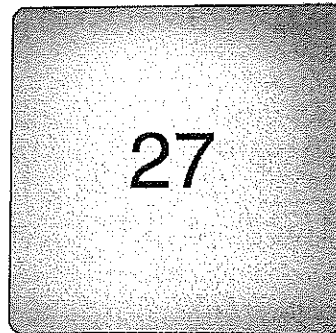
AS 2.2



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?*

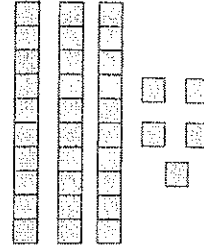
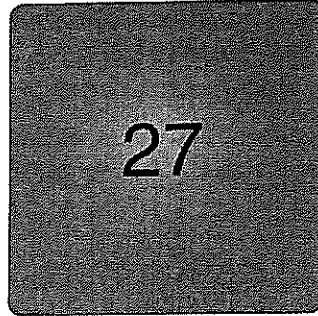
PV 2.1



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?



PV 1.3

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:

PV 2.2

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.

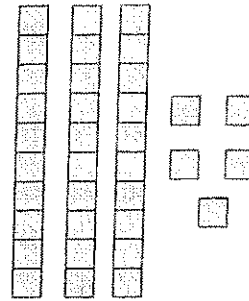
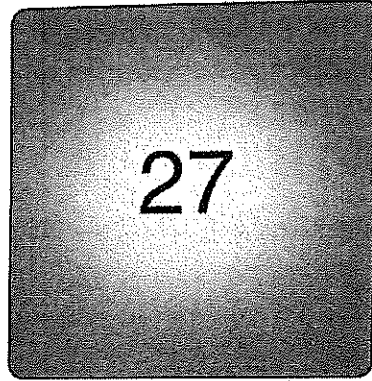
Response 2: 27 [raising 3 fingers] 37, 47, 57 [raising 5 fingers] 58, 59, 60, 61, 62.

PV 2.2

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?

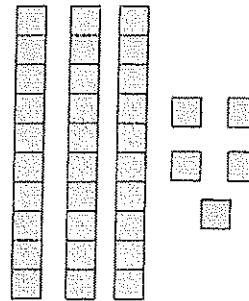
PV 3.3



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?

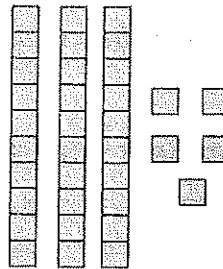
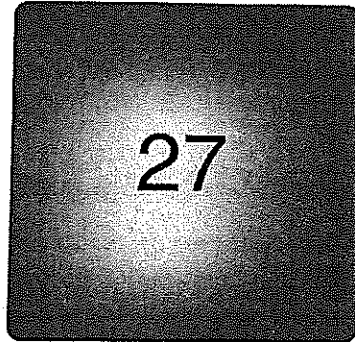
AS 2.2



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?

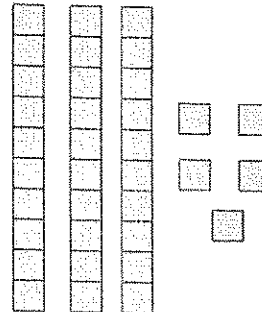
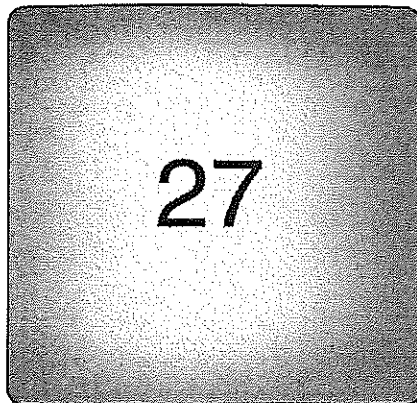
PV 3.2



Response: 3 tens plus 2 more tens from the 27 is 5 tens; 7 plus 5 is one more ten, so 6 tens, and 2. So 62.

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

AS 2.1



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.