# Happy faces

## Annotation

Bobbi solves the problem using known multiplication facts. She recognizes the array as a multiplication representation and knows that you can partition numbers, work on the parts and then recombine these to find the solution. She knows that she can partition 7 into 5 + 2 and uses known x 2 and x 5 facts to derive an unknown x 7 basic fact.

## Problem: Happy faces

The teacher shows the students this hundreds board and poses this problem:

*Some of the happy faces on this hundreds board have been covered up. How many faces can you see?*
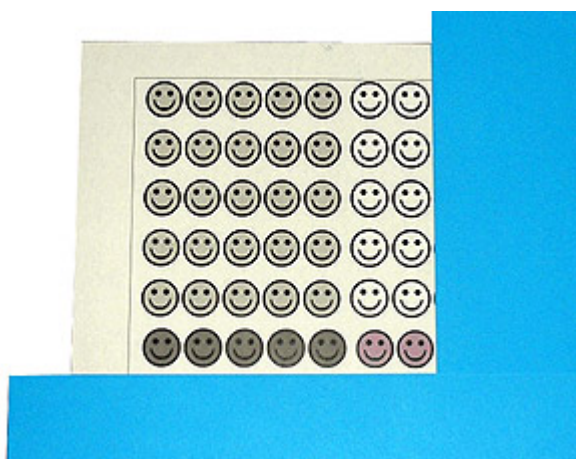


## Student response

| Bobbi: | 42 faces. |
|---|---|
| Teacher: | Tell me how you did that. |
| Bobbi: | Well I can see that there are six rows with seven faces in each row, which is really like saying 6 x 7. I don't know 6 x 7 but I can see that bit (she points to the light grey faces) is 5 x 5 and that is 25. That bit is 2 x 5, which is 10. Those last bits are just another 5 and a 2. So if I put all those together it's easy to add the 25 and the 5, that's 30, 10 more is forty and then there's the 2 so that's 42. So that's how many happy faces I can see altogether. |