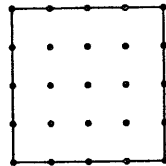


How many dots?: an investigation

1. The diagram shows a 5×5 square of dots.

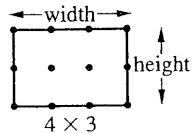
There are 16 dots on the perimeter
and 9 dots inside the square.

- (a) Draw a 3×3 , a 4×4 and a 6×6 square of dots. For each diagram, count the number of dots on the perimeter and the number of dots inside the square.
- (b) For a 100×100 square of dots, how many dots are on the perimeter?
- (c) For a 57×57 square of dots, how many dots are inside the square?



2. Rectangles are drawn so that the width is always 1 unit more than the height. The number of dots on the perimeter and the number of dots inside the rectangle are counted.

- (a) How many dots are on the perimeter of a 101×100 rectangle?
- (b) How many dots are inside a 9×8 rectangle?
- (c) (Much harder) How many dots are inside a 52×51 rectangle?



dots on perimeter = 14
dots inside = 6