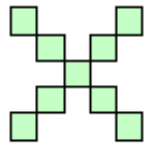# Square Tiles
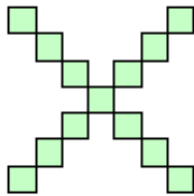
Tiles are arranged to form pictures like the ones below:
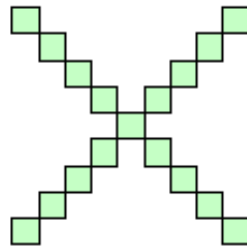

Picture 1   Picture 2   Picture 3   Picture 4

A. Find a direct formula that enables you to calculate the number of square tiles in Picture "n." How did you obtain your formula?

   If the solution has been obtained numerically, is there a way to explain your formula from the figures?

B. How many squares will there be in Picture 75? Explain.

C. Can you think of another way of finding a direct formula?

D. Two 6th graders came up with the following two formulas:

   Kevin's direct formula is: $T = (n \times 2) + (n \times 2) + 1$, where "n" means picture number and "T" means total number of squares.

      Is his formula correct? Why or why not?

E. Melanie's direct formula is: $T = (n \times 2) + 1 + (n \times 2) + 1 - 1$, where "n" and "T" mean the same thing as in Kevin's formula.

      Is her formula correct? Why or why not?

F. Which formula is correct: Kevin's formula, Melanie's formula, or your formula? Explain.