The growing pattern below can be generalized in an equation. Using your TI-Nspire, read page 1.1 and 1.2, then answer the question on page 1.2 below.
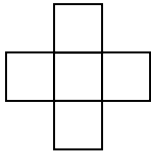
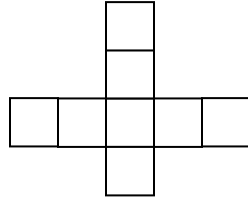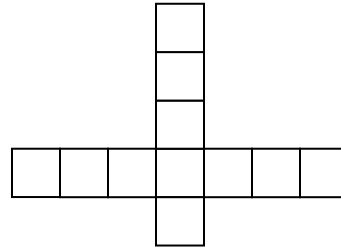Figure 1   Figure 2   Figure 3

1. page 1.2: Determine the number of tiles needed for each figure. (while page 1.2 only has the first two figures on the Nspire, make sure your method works for all three figures). Record your method here (in words as well as visually in the model).

2. Go on to page 1.3 and write the numeric expression you used to determine the number of tiles in figure 3 (please write your expression on this paper as well).

Proceed through the activity on your handheld (pages 1.4, 1.5, 1.6, and 1.7), then answer the following:

3. Compare the various representations (equation, model of pattern, scatter plot, table, and graph). How are they the same? Different?

4. Which representation would you prefer to use to find the number of tiles needed for the 20th figure? Explain.

5. Find the number of tiles needed for the 20th figure using the representation of your choice. Show work below.

6. Model how the rate of change shows up in various representations below:

Equation: Graph: Function Table: