Tiling a Patio

Mr. Gomez designs square patios for backyards. His designs are unique. In the center of each patio is a square space for a garden. Below are his three smallest patios. The dark tiles represent the garden and the white are tiles.

Mr. Gomez has hired you to as his assistant. He wants you to figure out the number of white tiles needed for the various sizes of patios.

Mr. Gomez’s 3 Smallest Patios

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| **Patio 1** | | |  | **Patio 2** | | | |  | **Patio 3** | | | | |  |

1. Draw patio 4 and 5. How many white ties are in patio 4? Patio 5”
2. Make some observations about the patios that could help you describe e larger patios.
3. Describe a method for finding the total number of white tiles needed for patio 50 (without constructing it.)
4. Describe a method for finding the total number of white tiles needed for any patio. Explain how your rule relates to the visual representation of the patio.
5. Write a different rule that could be used to determine the number of white tiles needed for any patio. Explain how your rule relates to the visual representation of the patio.