

Pyramid Patterns

Suppose you are an ancient Egyptian stone worker. The queen has hired you to make a pyramid sculpture for her garden.

“I will give you 140 blocks of stone,” she says. “Do not waste them.”

The queen shows you a model using 14 blocks. The model is 3 blocks high. The top layer has 1 block, the second layer has 4 blocks, and the third layer has 9 blocks.

A mathematician whispers to you, “You will be able to use all of the blocks if you follow the queen’s model. Just look for the pattern.”

After a while, the pattern becomes clear. You build the pyramid, using the blocks, and are richly rewarded by the queen.

1. How many layers does your finished pyramid have? _____

2. How many blocks did you use for each layer?

3. Describe the pattern the mathematician was talking about.

4. Could you make another pyramid with 200 blocks following the same pattern? Explain.

5. How many blocks of stone would you need to follow the same pattern and make a pyramid

A 8 blocks high? _____ **B** 9 blocks high? _____

C 10 blocks high? _____