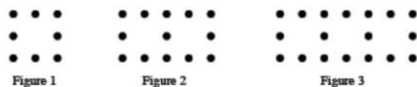


## College Preparatory Mathematics Chapter 1 Sample Argumentation Task

### 1-15. DOT PATTERN

Copy the dot pattern below onto graph paper. Explore using the [1-15 Student eTool](#) (CPM).



- What should the 4th and 5th figures look like? Draw them on your paper.
- How can you describe the way the pattern is growing? Can you find more than one way?
- How many dots would be in the 10th figure of the pattern? What would it look like? Draw it.
- How many dots would be in the 30th figure? How can you describe the figure *without* drawing it? Can you describe it with words, numbers, and a diagram? Be ready to explain your ideas to the class.

This sample is a HIGH QUALITY argumentation task. The exercise encourages the use of **logic and divergent thinking** in pattern recognition and leads to the idea of using a mathematical formulas while also requiring the students **explain their ideas**. While parts a and b can be helpful for framing student thinking and introducing an effective way to think of patterns, it is parts c and d that could be used as one joint argumentation task or two separate tasks.

"How many dots would be in the 30th figure? Analyze the pattern and use pictures or expressions to support your answer. Then explain how your evidence shows your answer is correct."