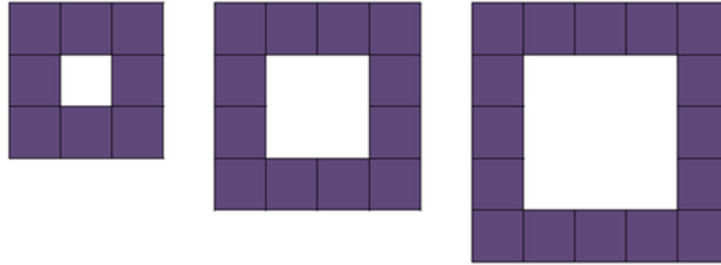


Mathletes Problem of the Week #14

And so on, and so on, and so on...



Try these challenges about patterns and sequences!

- Here is a rule for creating a number sequence: The first term equals 3. The second term equals 5. To find the next number and all numbers after that, take the previous term and subtract the one before it. So the third term would be $5 - 3 = 2$. Now, find the 2,018th term.
- Take a look at the visual pattern above. Describe how it is growing in words and/or symbols. Then, use your description to determine how many purple squares would be in the 99th figure.
- What is the value of $\frac{1}{1 \cdot 2} + \frac{1}{2 \cdot 3} + \frac{1}{3 \cdot 4} + \frac{1}{4 \cdot 5} + \dots + \frac{1}{99 \cdot 100}$?

Solutions & Explanations: (Try one or try them all! Record your solutions and explanations below and on the back.)

Name _____ Class _____

(First and last name, please!)

Solutions due: April 12th