

Week #6 Winter 2023



Problem of the Week

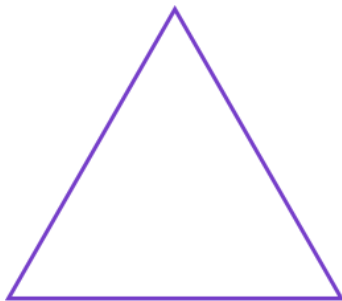


Diagram 1

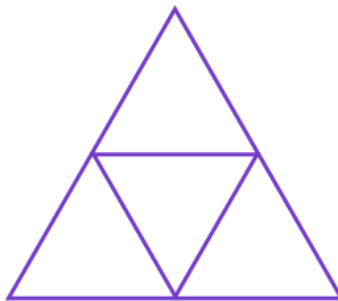


Diagram 2

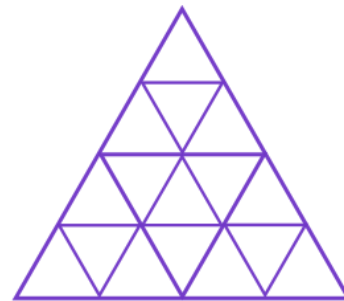


Diagram 3

Thomas is making a drawing by starting with a large equilateral triangle whose side lengths are each 5 inches. He will then break the triangle into smaller triangles (as seen above) and continue doing this over and over again. As he draws his picture his pen uses ink at a rate of .0001 ml per inch of drawing. If he continues to draw until the ink runs out of his pen. How many triangles will his drawing have if there is .7 ml of ink in his pen at the start.

Undergraduates may submit solutions to the Mathematics Department office, 1150 FAB **or** by email to waynepotw@gmail.com by noon 3/4/2023. Include your name, ID number, and whether you have completed Math 2030 (or higher). For more information go to <https://clas.wayne.edu/math>. Solutions will be posted online and throughout the math department after the deadline.