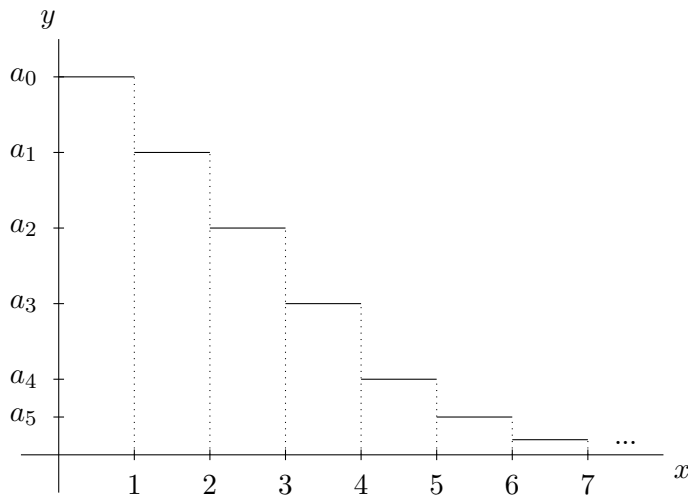


11. [5 points] The Hanoi tower is made by rotating the region depicted below around the y -axis. The region is made up of infinitely many adjacent rectangles. The n th rectangle has width 1 and height $a_n = \frac{1}{n!(2n+1)}$ where $n = 0, 1, 2, 3, \dots$. The rectangle touching the y -axis corresponds to $n = 0$. Note that the y -axis is not to scale.



Compute the volume of the Hanoi Tower. Give an **exact** answer.