

# Swans



go figure

A flock of  $n$  swans is sitting peacefully on a pond. Then, suddenly, one of the swans hears something in a bush at the water's edge, and it takes off and flies away.

Suppose that if  $k$  swans have flown away, the probability of another swan subsequently joining them is  $1 - \frac{1}{k+3}$  (so the more swans fly, the more likely it is that more swans fly also). What is the probability that the entire flock of  $n$  swans flies away once the first one takes off?