



Sneaky Pete

Sneaky Pete is very sneaky. He is waiting in line at an ice cream truck, and 4 people are in front of him. Every time the ice cream guy turns around to grab an ice cream, Sneaky Pete sneaks past two people to get closer to the front of the line. He can't sneak around the person being served – too risky! How many people will get ice cream before Sneaky Pete gets to the front of the line?

What if there are 8 people in front of him? 10? 12? 17? 32? 100?

Can you find a way to figure out how many people would get ice cream if P people are in front of Pete?

Bonus (only if you have time) – What would change if Sneaky Pete sneaks past three people at a time to get to the front of the line? Four people?

What if there are two ice cream guys? Three ice cream guys?

In general, if there are P people in front of him in line, and Sneaky Pete sneaks past N people each time the ice cream guy takes F people from the front, work out a formula to find the number of people (X) who get ice cream before Sneaky Pete gets to the front.

