

SPS Problem of the Week 2/27/2021-3/6/2021

Problem 1. You place a 100 ants on a 1 meter line, equally spaced. Each of the ants can be in one of two orientations, either going up the line or down the line. Assume all the ants have the same constant speed and that when 2 ants collide they just get reflected (switch orientation). What is the least time you must wait so that you can be sure that all the ants have exited the line no matter what the initial orientation?
Does it matter if they're evenly spaced?