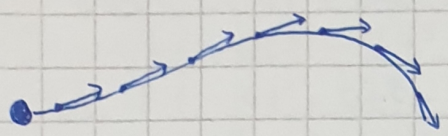
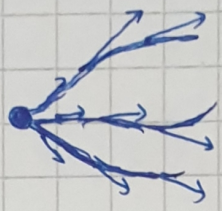
Nguyen Xuan Binh 887799 Round 2 Problem 1

a) Streamline is a curve or set of curves, where each particle on the streamline has its instantaneous velocity ~~that is~~ tangent to the streamline

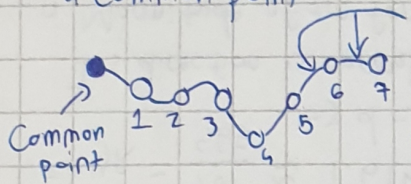


Streamline in a steady flow: tangent velocity vector is the same

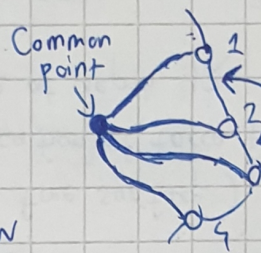


Unsteady flow: velocity vector varies along streamline

b) Streakline is a line connected by particles in a flow that have previously passed through a common point

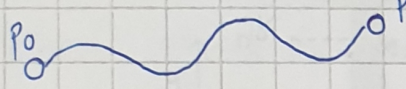


Streakline is connected by these particles, which have passed through a common point. This is steady flow



In unsteady flow, the streakline connects these particles, which may not flown on same line

c) Pathline is a line traced by one single particle in the flow over a period of time



: after a period of time, the line traced by the particle from p_0 to p_t is the path line