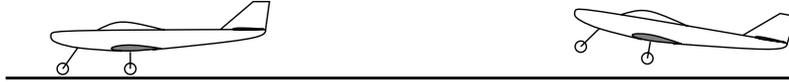F1a. An aircraft's wing is at zero angle of attack when all wheels are on the ground. Qualitatively describe the flow behind the wing airfoil a short time after landing touchdown. Assume 2-D flow.

F1b. A short time after starting its motion at speed V, a 2-D airfoil of chord c has a circulation Γ, and its starting vortex is some distance $d \gg c$ downstream. The fluid is incompressible and inviscid. Determine the c_ℓ and c_d of the airfoil, by convention taken perpendicular and parallel to the direction of travel. How do these change in time? Hint: First determine the apparent freestream flow velocity vector (magnitude and direction) seen by the airfoil.