Feedback on MATH35001 (Viscous Fluids) exam Jan 2020

Q1: [ILO1] (a,b) Basically fine, apart from a few algebraic slips. However, virtually everybody struggled with (c) and most people got at least the sign of the traction wrong! We've been through this hundreds of times...

Q2: [ILO3] A fair number of people omitted key steps in the derivation of the parallel flow equations and miraculously still got the right result -- maybe because I'd told you what to show? Most of you then spotted that the ansatz satisfies the no-slip condition and correctly determined the constant from the PDE.

Q3: [ILO2,4] Some questionable attempts to use linearity and dimensional analysis. I marked this (too!) generously. Some people didn't specify the IC (and therefore didn't address the issue that we have three constraints for a second order ODE).

Q4: [ILO4] Generally OK; not everybody checked that the continuity equation was satisified. Very sketchy attempts at the torque, again marked (possibly too) generously.

Q5: [ILO5] Bookwork part generally OK, people then often got lost when trying to plough through the algebra in (c) (or often didn't see what they were supposed to do!). A fair number set D\omega/Dt to zero because the flow is steady (wrong!). Attempts at sketching the velocity field were generally marked generously -- if they followed on from some prior analysis!