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## Problem 1

Drazin & Reid 1.11

## Problem 2

Drazin & Reid 1.7

Hint: There are three domains in this problem: z > L, |z| < L and z < -L. The first condition that  $(s + ikU)^{-1}\partial\phi'/\partial z$  be continuous comes from the kinematic interfacial condition; the second condition that  $(s + ikU)\phi'$  is continuous comes from continuity of pressure for the homogeneous fluid.