1. The bed of a river 7 m deep consists of sand (saturated unit weight of sand is 19.5 kN/m³). Calculate the effective vertical stress 7 m below the surface of sand.

2. A 30 ft thick layer of stiff saturated clay is underlain by a layer of sand (the figure below). The sand is under artesian pressure. Calculate the maximum depth of cut, $H$, that can be made in clay.