1. In a certain hurricane the pressure is observed to drop from 1000 hPa to 950 hPa as the
distance from the center drops from 130 km to 30 km. Evaluate the average pressure
gradient in MKS units. Assume that your value is a good estimate of the gradient at a
radius of 50 km.

   a) Assume purely tangential wind at this radius. Evaluate the wind speed, assuming
   balance between the pressure gradient and centrifugal forces.

   b) Assume purely radial motion. Evaluate the change in the radial velocity over an hour,
   assuming that the pressure gradient remains constant.

2. Problem 1.2 in Holton.

3. Problem 1.3 in Holton.

4. Problem 1.4 in Holton.