AOSC 600
 Homework #4
 DUE: 13 October 2015
 Questions are worth 10 points each

1) Martin 5.7
2) Martin 6.1
3) Martin 6.4
4) Martin 6.7

5) The figure below shows contours of 300 mb geopotential in the Northern Hemisphere. For this configuration of geopotential, is this a jet entrance or jet exit region? At the circle, diagnose and mark the inertial-advective component of the ageostrophic wind (Martin Equation 6.12). What terms from M6.12 can be eliminated for this schematic? From $V_{1A}$, identify one region of convergence and one region of divergence. What does this mean for upward and/or downward vertical motion.

![Diagram of geopotential contours with labels $\phi - \delta\phi$ and $\phi + \delta\phi$.]