

**AOSC 600**  
**Homework #3**  
**DUE: 12 October 2017**  
**Questions are worth 10 points each**

- 1) Martin 4.3
- 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  $V_{IA}$ , identify one region of convergence and one region of divergence. What does this mean for upward and/or downward vertical motion.

