

Fill in the Blank

1. For a surface midlatitude cyclone to develop or intensify into a deep low pressure area, aloft _____ must be greater than surface convergence of air.
2. _____ instability is needed for a surface low pressure area to intensify into a huge storm.
3. The region of strongest winds in the core of the jet stream is called a _____.
4. When a surface anticyclone is building or strengthening, aloft _____ must be greater than surface divergence of air.
5. As the _____ bends into a looping wave pattern, it provides some of the necessary ingredients for a developing surface storm system.
6. For a surface midlatitude cyclone to develop or intensify, the upper level low must be to the _____ of the surface low.

Multiple Choice

1. When an upper-level low lies directly above a midlatitude storm system, the surface low will usually:
 - a. dissipate
 - b. intensify
 - c. show no change during a 48 hour period
2. The polar front theory was developed:
 - a. shortly after the end of World War II
 - b. just before the turn of the 19th century
 - c. shortly after the end of the Korean War
 - d. shortly after the end of World War I
3. If an upper-level trough is located to the west of a surface midlatitude storm, the surface storm will probably move toward the:
 - a. southwest
 - b. northeast
 - c. northwest
4. One would expect diverging air aloft and converging surface air to be on the _____ side of a vorticity maximum.
 - a. eastern
 - b. western