

Meteorology Test 4  
Answers

1. Four mechanisms:
  - a. Orographic Lifting: The forcing of air above a mountain barrier.
  - b. Frontal Lifting: The displacement of one air mass over another at a frontal boundary
  - c. Convergence: The horizontal movement of air into an area at low areas. (Such as in a low pressure zone.)
  - d. Localized convective lifting due to buoyancy.
2. A rain shadow is an area on the lee (downwind) side of a mountain barrier having relatively low precipitation.
3. Adiabatic processes have no heat added or removed from them. For example, a rising air parcel cools adiabatically as it expands. Diabatic processes involve the addition or removal of heat. For example, air in contact with a cold surface loses heat diabatically by conduction.
4. Static stability
5. Stable; inversion (temperature increase with height)
6. High clouds exist above 6000m/19000ft.
7. Cirrus, cirrocumulus, cirrostratus
8. Ice crystals
9. Cirrus; they are created by falling ice crystals and curving winds.
10. Haloes
11. Mackerel Sky
12. 2000m-6000m; 6000ft-19000ft
13. Altostratus and Altocumulus
14. 6000ft; 2000m
15. Stratus, stratocumulus, nimbostratus
16. Cumulus and Cumulonimbus
17. Luke Howard
18. Nephology
19. ice
20. Lenticular cloud
21. Downwind of mountain barriers
22. Banner clouds
23. Mamma (or mammatus)
24. Nacreous and Noctilucent
25. Nacreous
26. ozone