

**Unit 4 ATM478/678****Application, analysis, and evaluation**

1. **All students:** We learned that there is a horizontal pressure gradient between two points on mountain and over the valley that are at same height above sea level. Assume a mountain-valley system with an ambient air temperature of  $15^{\circ}\text{C}$ . The air adjacent to the  $30^{\circ}$  mountain slope is  $5^{\circ}\text{C}$  warmer than the ambient air. Calculate the horizontal pressure gradient and the along-slope pressure gradient forces and the acceleration. Assume unit mass.