Air Pressure

1. The surface station pressure at an elevation of 600 meters above sea level is 946 mb. What is the corrected sea level pressure for this station?

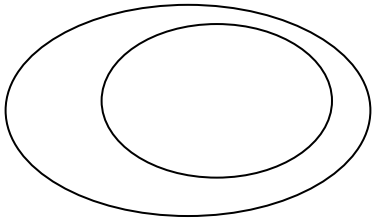
2. On average the pressure drops by about 10 mb for each 100 meters of altitude gain when you are near sea-level. Will the pressure drop for each 100 m altitude gain be **smaller or larger** when you are up higher in the atmosphere?

3. Will the pressure drop for each 100 m altitude gain be **smaller or larger** when the air temperature is much colder than normal?

4. What happens to the surface pressure at the base of a column of air as air converges into it?

5. The pressure drops by 4 mb over a distance of 200 km in Area A and the pressure drops by 4 mb over a distance of 400 km in Area B.
How does the pressure gradient in area A compare to that of Area B?

6. In the Figure below where is the pressure gradient force largest? (Circle the area)



Answers: 1. 1006 mb 2. **smaller** because air density is less 3. **larger** air density is higher 4. it increases 5. A has a pressure gradient twice as large as B 6. upper right corner