

**ESCI 241 – Meteorology**  
**Answers to Selected Exercises for Lesson 11**

2. For the picture above, calculate the magnitude of the pressure gradient (in Pascals per meter) at each point A, B, C, and D.

**Answer:**

Point	$ \nabla p $
A	<b>0</b>
B	<b>0.008 Pa/m</b>
C	<b>0.006 Pa/m</b>
D	<b>0.003 Pa/m</b>

4. For the picture above calculate the magnitude of the geostrophic wind at each point A, B, C, and D. Use  $\rho = 1.23 \text{ kg/m}^3$ , and  $f = 10^{-4} \text{ s}^{-1}$ .

**Answer:**

Point	$V_g$
A	<b>0</b>
B	<b>65 m/s</b>
C	<b>49 m/s</b>
D	<b>22 m/s</b>

5. For the picture above, fill in the table below telling whether the x and y components of the geostrophic wind are positive or negative.

Point	$u_g$	$v_g$
A	<b>0</b>	<b>0</b>
B	<b>-</b>	<b>+</b>
C	<b>+</b>	<b>0</b>
D	<b>+</b>	<b>+</b>