

1a. Given a horizontal pressure gradient vector  $-0.015 \hat{i} + 0.010 \hat{j}$ , with components expressed with dimension Pascal per meter, evaluate  $u$  and  $v$ . You may assume  $\varphi = 45^\circ$ .

1b. Make a plan-view sketch showing the horizontal pressure gradient vector.

1c. On your sketch, show the horizontal current vector.

1d. Assume  $\varphi = -45^\circ$ , how does this change your answers to Problems 1a, 1b and 1c?