

Consider the function  $f(x, y) = \sin(x)(1 + \cos y)$ .

- a. (3 points) Which one of the points  $(-\frac{\pi}{2}, 0)$ ,  $(0, 0)$ ,  $(\frac{\pi}{2}, 0)$  are critical points of  $f$ ?
- b. (7 points) Determine the nature of the critical points from part (a).