Math 3298 Worksheet 45: Directional derivatives and optimization

Group members (2 to 4): _____

(1) Find the minima and maxima of the surface $z = (x-1)^2 x^2 + (y+1)^2 y^2$.

(2) If you traveled on this surface from the point $(\frac{1}{2}, -\frac{1}{2}, \frac{1}{8})$ to the point $(1, 0, 0)$ in a straight line, where would your steepest descent occur?