1. *Use Lagrange multipliers* to find the maximum and minimum values of $x^2 + y^2 - 2x - 2y$ on the disk of radius $\sqrt{8}$ centered at the origin, that is, on the region $\{x^2 + y^2 \le 8\}$.
   This is the same problem as last week...

2. Find the points on the curve $x^2 + xy + y^2 = 3$ which are closest to and furthest from the origin.