

Assignment-6

1. Solve following minimization problem by Lagrange multiplier.

$$\begin{aligned} \text{Min. } & f(x, y) = xy \\ \text{s.t. } & 4x^2 + y^2 = 8 \end{aligned} \tag{1}$$

2. Solve following Maximization problem by Lagrange multiplier.

$$\begin{aligned} \text{Max. } & f(x, y) = 4y - 2z \\ \text{s.t. } & \begin{cases} 2x - y - z = 1 \\ x^2 + y^2 = 1 \end{cases} \end{aligned} \tag{2}$$

- Hints

1. Submission due: **2025/Dec./15**
2. Submit to lecwlzhao@163.com, email title “assigment6_your-name + your student number”