Problem 1. (5 points) Use Lagrange multipliers to find the maximum and minimum value of \( f(x, y, z) = 2x + 2y + z \) subject to the constraint \( x^2 + y^2 + z^2 = 9 \).

Problem 2. (5 points) Evaluate by reversing the order of integration:

\[
\int_0^2 \int_{y/2}^1 y \cos(x^3 - 1) \, dx \, dy
\]