1. (10 points) Let a curve is described by the equation $e^{xy^{-1}} + x^2y = 2$. Find a tangent line to the curve at $(1, 1)$.

**Solution:**
2. (10 points) Find the angle between the planes $2x + 3y + z = 0$ and $x + y + 3z = 1$.

**Solution:**
3. (10 points) Find the integral of \[ \int_0^\pi \int_0^\pi x \cos(xy) + y \sin(xy) \, dA \], where \( R = [\pi, \pi] \times [0, \pi] \).

Solution:
4. (10 points) Find the intersection between the planes $2x + 3y + z = 0$ and $x + y + 3z = 1$.

**Solution:**