Name: ________________________________

1. Identify the following vector fields

1. \( z = x^2 + y^2 \)
2. \( z^2 = x^2 + y^2 \)
3. \( z = 2 - 3x + 2y \)
4. \( z = x \cos(y) \)

(a) _____  (b) _____

(c) _____  (d) _____
2. Calculate the scalar line integral of the function \( f(x, y, z) = x + y \) over the curve \( \vec{c}(t) = \langle t, \cos(t), \sin(t) \rangle \) from \( t = 0 \) to \( t = 2\pi \).