Name: _____

1. (5 points) Find the mass of the solid E given as $\{(x,y,z)|0 \le x \le 2,\ 0 \le y \le 1,\ 0 \le z \le 1\}$, whose density is $\rho(x,y,z) = 1 + x^2 + y - z$.

2. (5 points) Find the volume of the solid E whose boundary consists of the elliptic paraboloid $z = 2x^2 + 2y^2$ and the plane $z - 8 = 0$