1. Find a unit vector in the direction opposite the given vector.
   \[ u = \langle 3, -4 \rangle \]

2. Find a vector parameterization of the line passing through the points (1, 2, 3) and (3, 2, -4).

3. Determine if the following lines intersect, if so, find the point of intersection.
   \[ r_1(t) = \langle 1, 2, 3 \rangle + t \langle 2, 1, 3 \rangle, \quad r_2(s) = \langle -6, -6, 0 \rangle + s \langle 1, 2, -1 \rangle \]