Group members (2 to 4): 

(1) Consider the curve \( \vec{r}(t) = (t, t^2, t^3 + 1) \). Find the unit tangent vector when \( t = 1 \).

(2) The above curve lies on the surface \( z = xy + 1 \). Find the equations for (a) the tangent plane at \( \vec{r}(1) \) and (b) the normal line to the surface at that point.