

Show all work. 5 points each.

1) Find an equation of the tangent line to the curve  $x = t$ ,  $y = t^2$  and  $z = t^3$  at the point  $(1, 1, 1)$ ,

2) Find the curvature of  $\mathbf{r}(t) = t^2\mathbf{i} + t\mathbf{k}$ .