

$$= \langle -e^{-t} \cos t - e^{-t} \sin t, e^{-t} \cos t - e^{-t} \sin t, -e^{-t} \rangle \quad (6)$$

$$\vec{r}(0) = \langle -1, 1, -1 \rangle$$

tangent line
is parallel to this
vector

$$\therefore x = 1 + (-1t) \Rightarrow x = 1 - t$$

$$y = 0 + (1t) \quad y = t$$

$$z = 4 + (-1t) \quad z = 4 - t$$

} These are
the parametric
eq. that

define the tangent
line at $P(0)$