

$$1. \quad r(t) = (te^{-t}, \tan(t), t^2 + t) \wedge t = 0$$

$$r'(t) = (-e^{-t} + te^{-t}, \sec^2(t), 2t + 1)$$

$$r(0) = (0, 0, 0)$$

$$r'(0) = (-1, 1, 1)$$

$$L = \lambda(-1, 1, 1)$$

$$2. \quad r(t) = (t^3 + 3t, t^2 + 1, 3t + 4) \wedge t = 0$$

$$r'(t) = (3t^2 + 3, 2t, 3)$$

$$r(0) = (0, 1, 4)$$

$$r'(0) = (3, 0, 3)$$

$$L = \lambda(3, 0, 3) + (0, 1, 4)$$