

1. (8 point) Find the unit tangent vector to the curve $\mathbf{r}(t) = \langle \sin(t), \cos(t), t^3/3 \rangle$ at the point $t = \pi$.

Answer: _____

2. (1 point) True or False: The equations $\mathbf{r}(t) = \langle 0, 0, 0 \rangle + \langle 3, 1, -2 \rangle t$ and $\mathbf{s}(t) = \langle 6, 2, -4 \rangle + \langle -6, -2, 4 \rangle t$ define the same line.

Answer: _____

3. (1 point) True or False: If two lines are not skew, they must intersect at a point.

Answer: _____