

Name: _____

ID: _____

1. Let

$$g(r, s, t) = e^r \sin(st).$$

Compute the third partial derivative g_{rst} .

2. Let

$$z = x^2y + 3xy^4,$$

$$x = \sin 2t,$$

$$y = \cos t.$$

Compute $\frac{dz}{dt}$ when $t = 0$.