Name:

1. Compute $\dfrac{\partial f}{\partial y}$ if

$$f(x, y, z) = e^{-x^2 y} + \ln(y + z) + \sin\left(\frac{x}{z}\right)$$

2. For a function $f(x, y)$ you know that

$$f(2, 3) = 9$$
$$f_x(2, 3) = 3$$
$$f_y(2, 3) = -1.$$

Use this information to estimate $f(2.1, 3.2)$.

3. A right triangle has width 1m and height 2m with an error in the measurements of ±0.02m. Estimate the error in the area using a differential.