

## HW21

①  $f(x, y) = \ln(x^2 - 3y^2)$  &  $(a, b) = (2, 1)$ .

Find  $f(a, b)$ ,  $\frac{\partial f}{\partial x}(a, b)$ , and  $\frac{\partial f}{\partial y}(a, b)$ .

Then use these to find tangent line approximations of

$f(2.02, 1)$ ,  $f(1.99, 1)$ , and  $f(2, 1.05)$ .

② Find  $\frac{\partial}{\partial x}(x^3 + x^2y + xy^2 + y^3)$ .

③ Find  $\frac{\partial}{\partial y}(e^{(x/y)})$ .