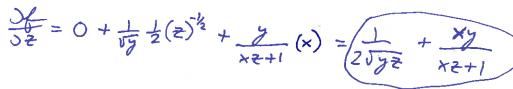
1. Compute $\frac{\partial f}{\partial z}$ for the function

$$f(x,y,z)=\cos(2\pi x^2)+\sqrt{rac{z}{y}}+y\ln(xz+1).$$



- 2. Consider the function $g(u, v) = u^2 2uv + v^3$.
 - (a) At the point (u, v) = (3, -1), is g more sensitive to changes in uor to v? Show enough work to justify your answer.

$$dg = \frac{3\pi}{5u} du + \frac{3g}{5v} dv$$

$$= (2u-2v)du + (-2u+3v^2)dv$$

$$= 8du + (-3)dv$$

More sensitive to changes in u, since |8| > |-3|.

(b) If from the point (u, v) = (3, -1) the value of v is increased by a

small amount, will g increase or decrease?

Since 3/2(3,-1)=-3, guill decrease.