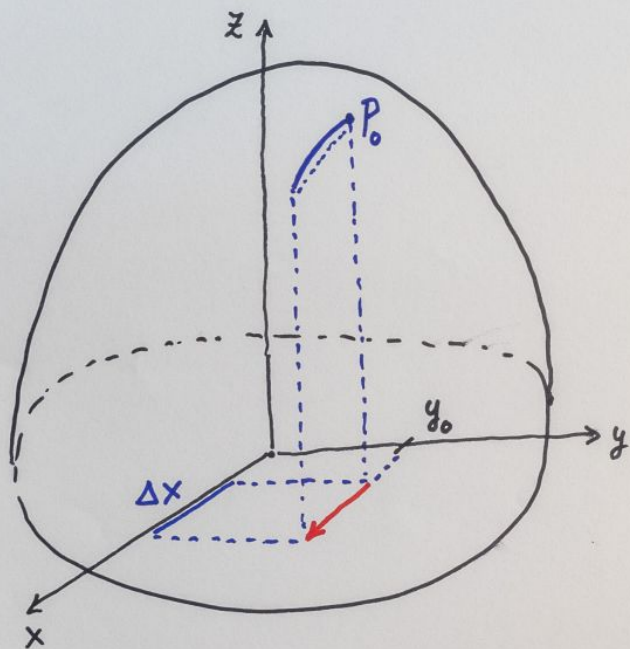
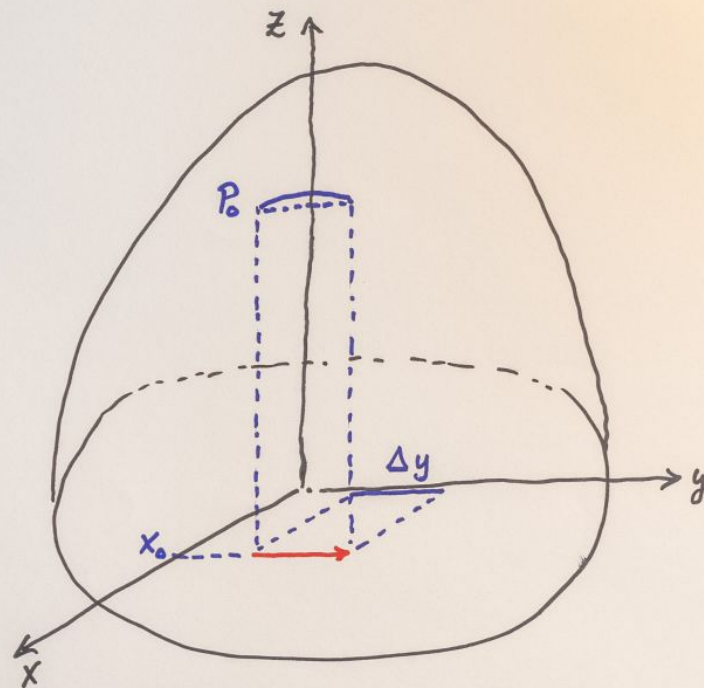


c) $z = f(x, y) = \sqrt{4 - x^2 - y^2} \geq 0$, Halbkugel: $R = 2$

Höhenlinien: $4 - x^2 - y^2 = c^2$
 $x^2 + y^2 = 4 - c^2$, $c \leq 2$
 Kreise



Fortschreiten in x-Richtung: $y = y_0$
 $x \rightarrow x + \Delta x$



Fortschreiten in y-Richtung: $x = x_0$
 $y \rightarrow y + \Delta y$

$$\frac{\partial f}{\partial x} \equiv f_x \equiv \lim_{\Delta x \rightarrow 0} \frac{f(x + \Delta x, y_0) - f(x, y_0)}{\Delta x}$$

$$\frac{\partial f}{\partial y} \equiv f_y \equiv \lim_{\Delta y \rightarrow 0} \frac{f(x_0, y + \Delta y) - f(x_0, y)}{\Delta y}$$

partielle
Ableitungen