$f(x, y) = \sqrt{29 - x^2 - 4y^2} \quad \Rightarrow \quad f_x(x, y) = -\dfrac{x}{\sqrt{29 - x^2 - 4y^2}}$ and $f_y(x, y) =$
$-\dfrac{4y}{\sqrt{29 - x^2 - 4y^2}}$, so $f_x(2, 2) = -\frac{2}{3}$ and $f_y(2, 2) = -\frac{8}{3}$. Then the linear approximation of f at $(2, 2)$ is given by
$f(x, y) \approx f(2, 2) + f_x(2, 2)(x - 2) + f_y(2, 2)(y - 2) = 3 - \frac{2}{3}(x - 2) - \frac{8}{3}(y - 2)$
$= -\frac{2}{3}x - \frac{8}{3}y + \frac{29}{3}$.
Thus $f(2.07, 2.08) \approx -\frac{2}{3}(2.07) - \frac{8}{3}(2.08) + \frac{29}{3} \approx 2.740$.