Quiz 4

1. (5 points) Is the function $f(x, y) = x \sin(xy) + 10y$ increasing or decreasing at the point $(1, \pi)$ in the direction of the unit vector $\left(\frac{3}{5}, -\frac{4}{5}\right)$?

2. (5 points) Find an equation of the plane tangent to the surface $y^2 + z^2 + xyz = 0$ at point $(-2, 1, 1)$