1. Find the limit, if it exists, or show that the limit does not exist.

$$\lim_{(x,y)\to(0,0)} \frac{4y^2 \cos^2 x}{x^2 + y^2}$$

2. *True / False?* The function $f(x, y) = \sqrt{x - y + 1}$ is not continuous at the point $(0, 1)$.

3. *True / False?* To show that the limit at a point (a, b) exists, it suffices to find two paths to the point (a, b) where the limits of $f(a, b)$ agree.