

1. Let $f(x, y) = \sqrt{x^2 + y^2}$

(a) Sketch the level curves for $z = 4, 2, 1, 0, -1, -2, -4$ on the same set of axes

(b) Sketch the trace in the xz -plane

(c) Sketch the graph $z = f(x, y)$ in three dimensions

(d) Verify your sketch from (c) by graphing in WolframAlpha

2. Let $g(x, y) = x^2 - y^2$.

Repeat (a) - (d) from #1.