

1. Problem 2.

State the domain and the codomain the following functions.

(a) $f(x, y) = xy(\sqrt{x} + \sqrt{y})$

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

(c) $f(x, y) = \frac{1}{\sin(x+y)\sin(x-y)}$

(d) $f(x, y, z) = \cos(x^2 + y^2 + z^2)$