

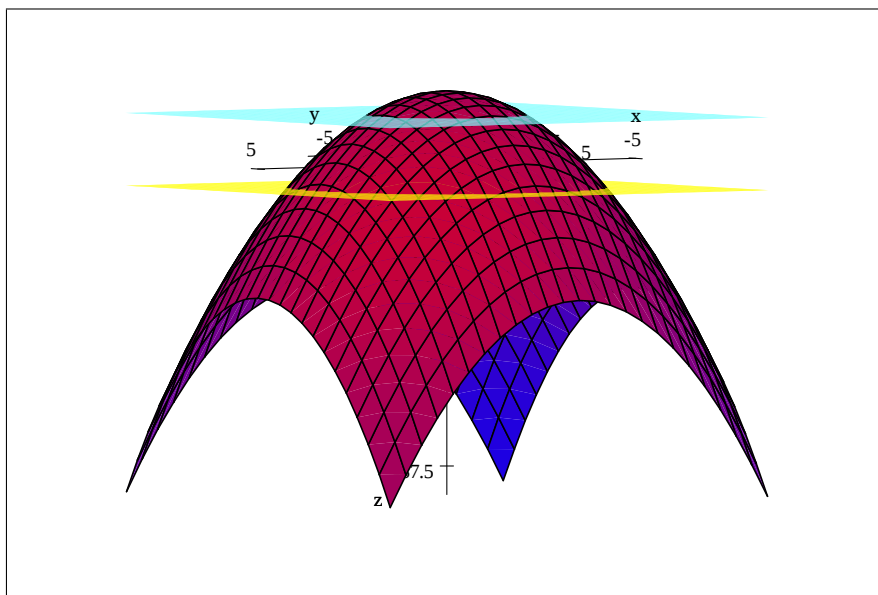
Capítulo 2 - Exercícios Práticos

As seguintes figuras são os gráficos das respectivas funções. Estão também representados planos de equação $z = c$, cuja projecção no plano xOy , das intersecções destes com superfície correspondem à curva de nível c da superfície.

A superfície tem cor azul e vermelha, os planos têm cores azul claro, cinzento e amarelo.

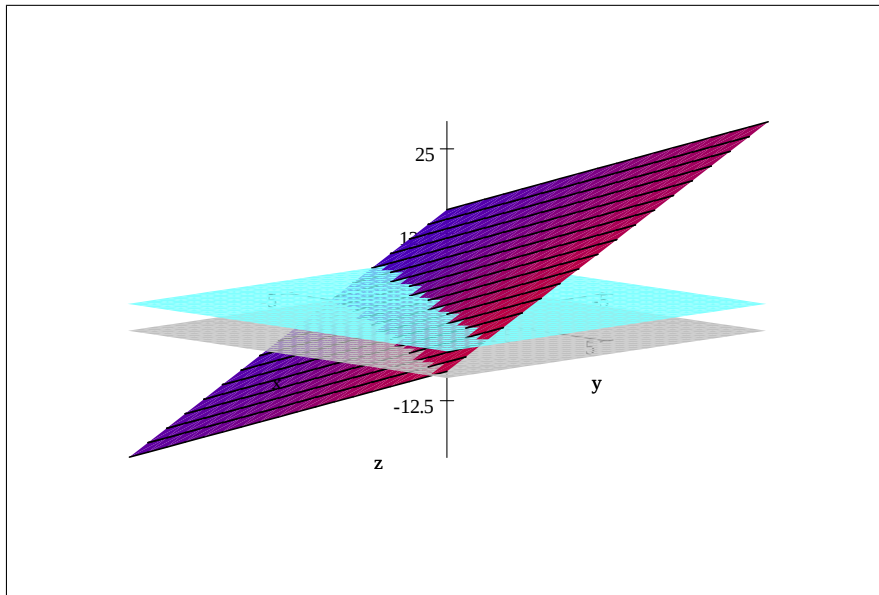
2.1.1.

$$f(x, y) = 9 - x^2 - y^2$$

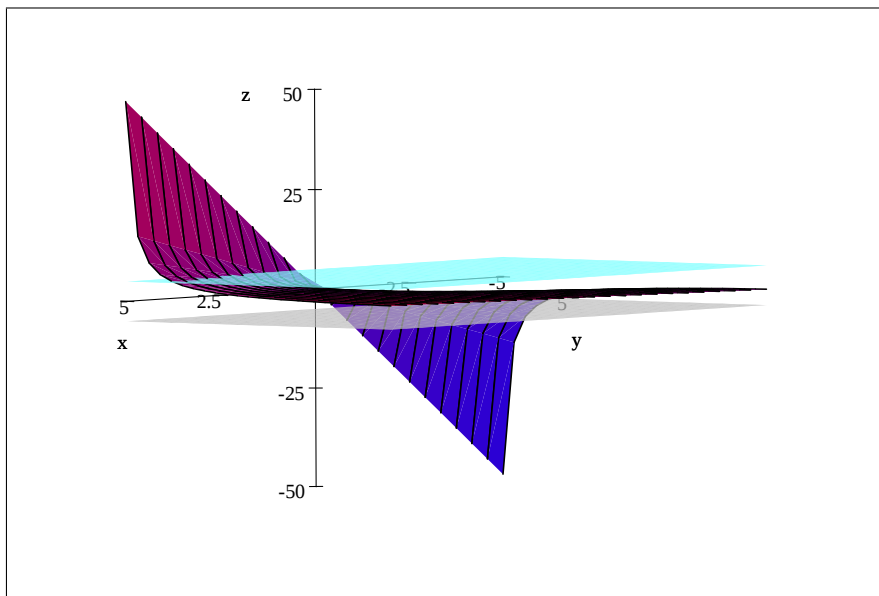


2.1.2. a)

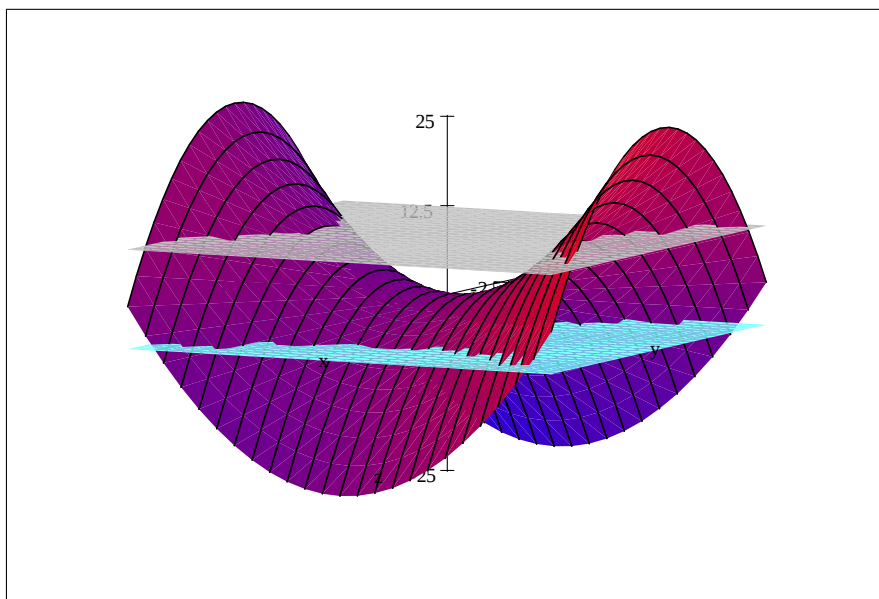
$$f(x, y) = 4 - 3x + 2y$$



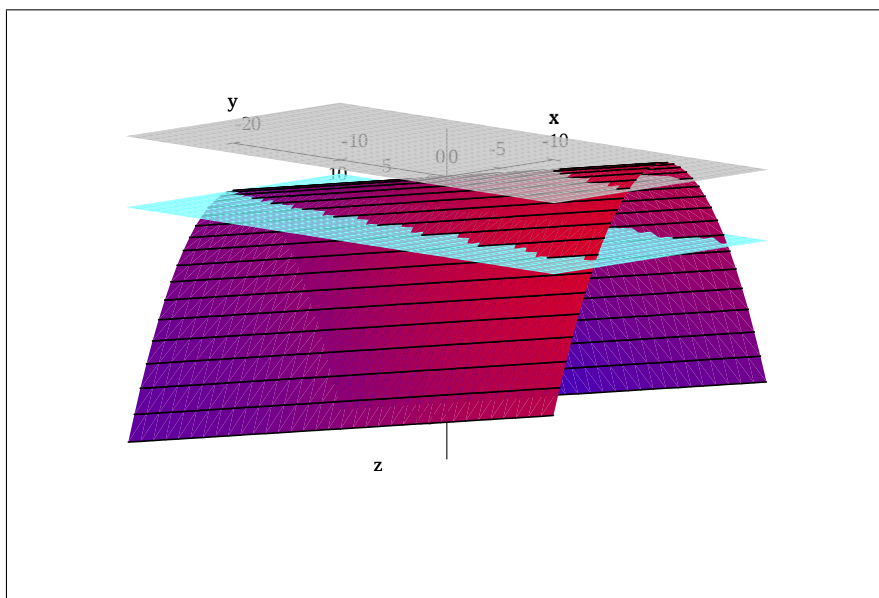
2.1.2. b)
 $f(x, y) = \frac{x}{y} \quad (y > 0)$



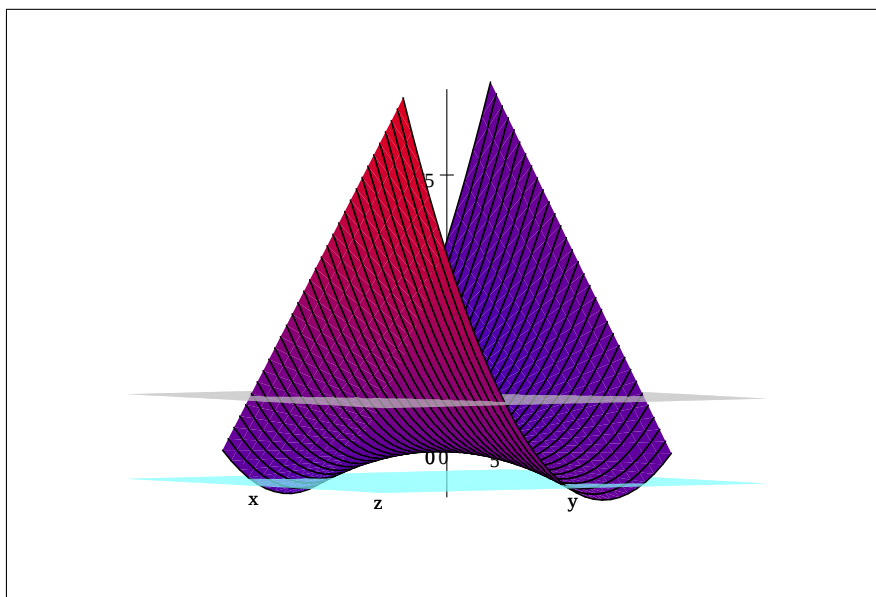
2.1.2. c)
 $f(x, y) = y^2 - x^2$



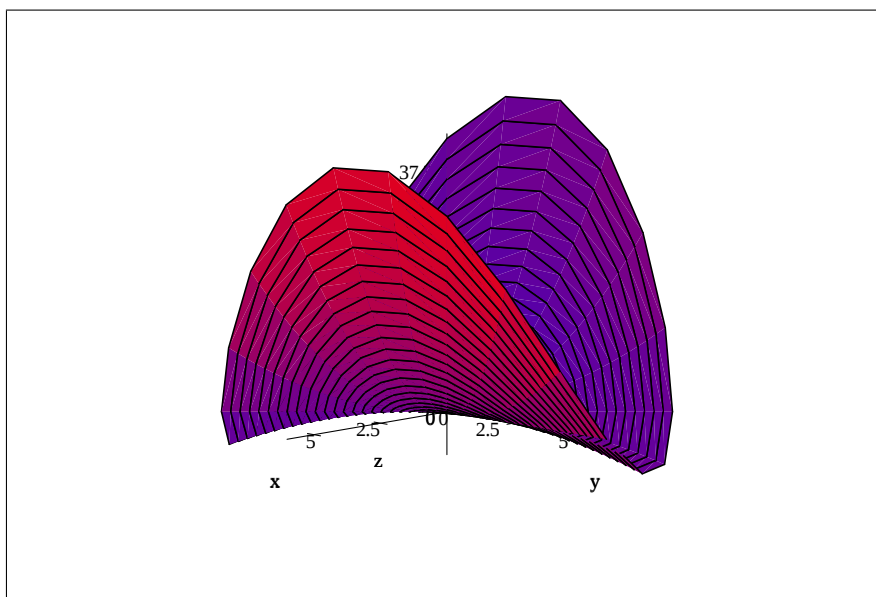
2.1.2. d
 $f(x, y) = y - x^2$



2.1.2. e
 $f(x, y) = x^2 + xy$

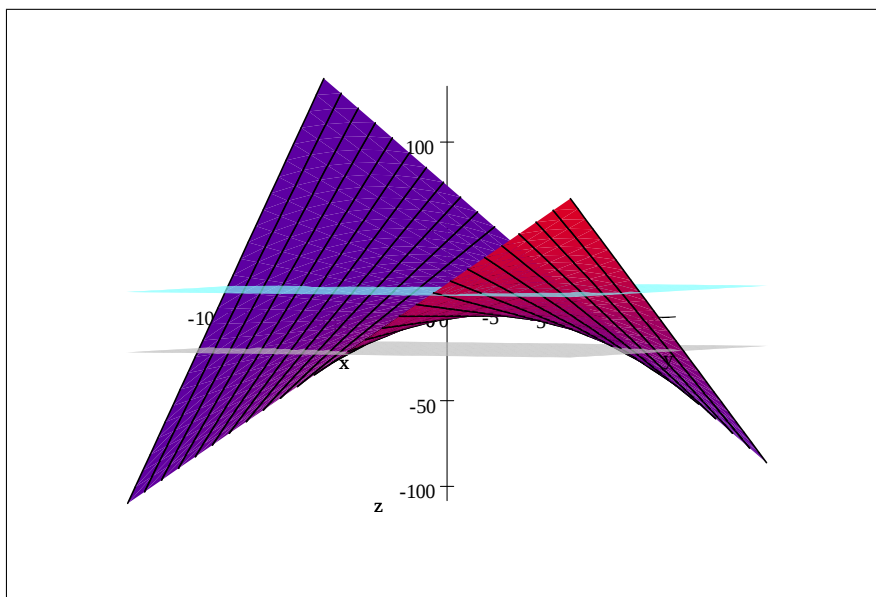


$$f(r, \theta) = r^2 \cos^2 \theta + r^2 \cos \theta \sin \theta$$

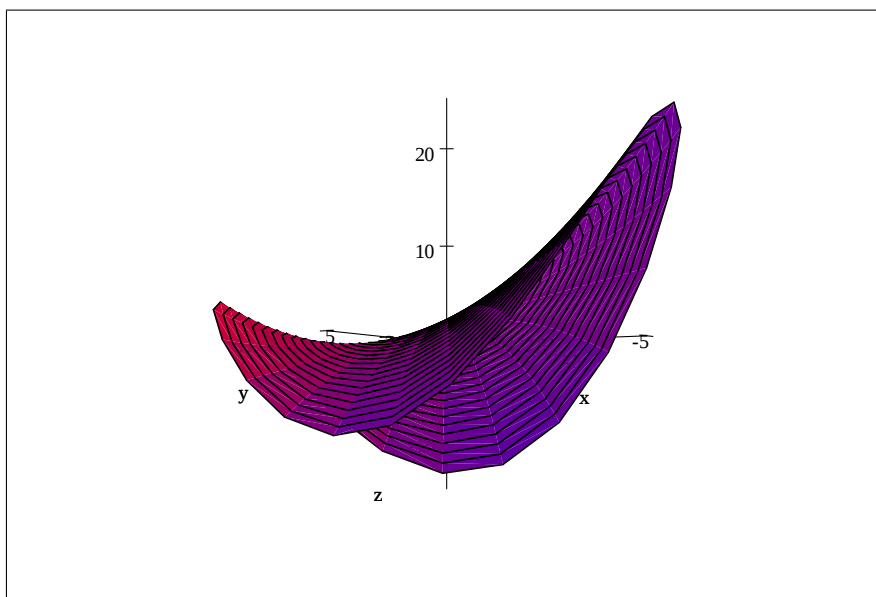


2.1.2. f

$$f(x, y) = (x - 1)(y - 2)$$



$$f(x, y) = (r \cos \theta - 1)(r \sin \theta - 2)$$



2.1.4. $f(x, y) = \frac{2xy}{x^2 + y^2}$

