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**UNIVERSIDAD DEL NORTE**  
**CÁLCULO III (ANEC)**  
**FUNCIONES DE VARIAS VARIABLES**

Determine y grafique el dominio de las siguientes funciones.

1.  $f(x, y) = \frac{1}{\sqrt{x+y}}$ .
2.  $f(x, y) = \frac{1}{\sqrt{x}} + \frac{1}{\sqrt{y}}$ .
3.  $f(x, y) = \frac{4}{4-x^2-y^2}$ .
4.  $f(x, y) = \ln(xy-1)$ .
5.  $f(x, y) = \frac{x+y}{xy}$ .
6.  $f(x, y) = \frac{\sqrt{x}}{2x-y}$ .
7.  $f(x, y) = \frac{e^{\sqrt{y}}}{y+x}$ .
8.  $f(x, y) = \frac{\ln(x-2)}{y-2}$ .
9.  $f(x, y) = \sqrt{10-x-y^2}$ .
10.  $f(x, y) = \log(y-x^3-1)$ .
11.  $f(x, y) = \frac{(x+2)e^{2y}}{(y-x^2)(y-4)}$ .
12.  $f(x, y) = \sqrt{x^2-4}$ .
13.  $f(x, y) = \frac{1}{y-\ln x}$ .
14.  $f(x, y) = \sqrt{|x|}$ .

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15.  $f(x, y) = \ln(25 - x^2 - y^2) + \sqrt{y - 2}$ .
16.  $f(x, y) = e^{-(x^2+y^2)}$ .
17.  $f(x, y) = \ln(x^2 + y^2 - 1) + \ln(9 - x^2 - y^2)$ .
18.  $f(x, y) = \sqrt{x} + \sqrt{y - x}$ .
19.  $f(x, y) = \frac{1}{x^2 - y^2}$ .
20.  $f(x, y) = \frac{x}{e^x - 9}$ .
21.  $f(x, y) = \sqrt{1 - x^2 - y} - \sqrt{y - x^2 + 1}$ .
22.  $f(x, y) = \sqrt{x^2 + y^2 - 4} + \sqrt{4 - x^2 - y}$ .
23.  $f(x, y) = \ln(y - x^2) + \ln(1 - x^2 - y^2)$ .
24.  $f(x, y) = \sqrt{x^2 + y^2 - 1} + \ln(-y - x^2)$ .