

Calc 3: Assignment 11

Note Title

10/6/2011

① For $f(x,y) = \ln(x+y-1)$

a) Find $f(1,1)$ and $f(e,1)$

b) Find / sketch the domain of f

c) What is the range of f ?

② Sketch the domain of

a) $f(x,y) = \sqrt{y} + \sqrt{25-x^2-y^2}$

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

③ Sketch the graphs of,

a) $f(x,y) = 10-4x-5y$

b) $f(x,y) = 3-x^2-y^2$

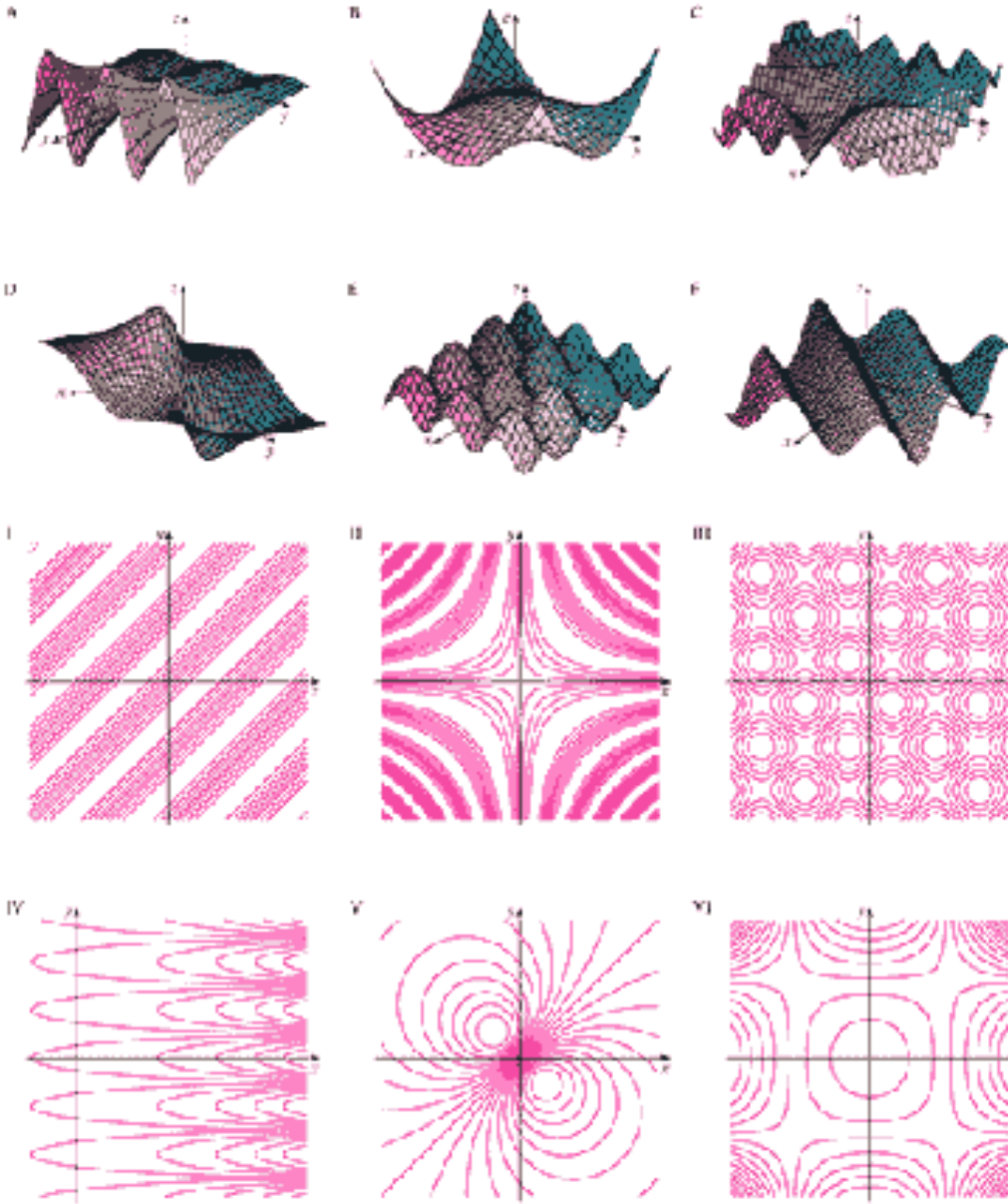
④ Draw several levels of the contour plot for

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

b) $f(x,y) = x^3-y$

c) $f(x,y) = ye^x$

⑤ Match the functions to the contour plots:



⑥ Find the following limits or show that they do not exist.

$$\lim_{(x,y) \rightarrow (1,0)} \frac{1+y^2}{x^2+xy}$$

$$\lim_{(x,y) \rightarrow (0,0)} \frac{xy \cos(y)}{3x^2+y^2}$$