1. Consider the following level curves. Answer the questions below.
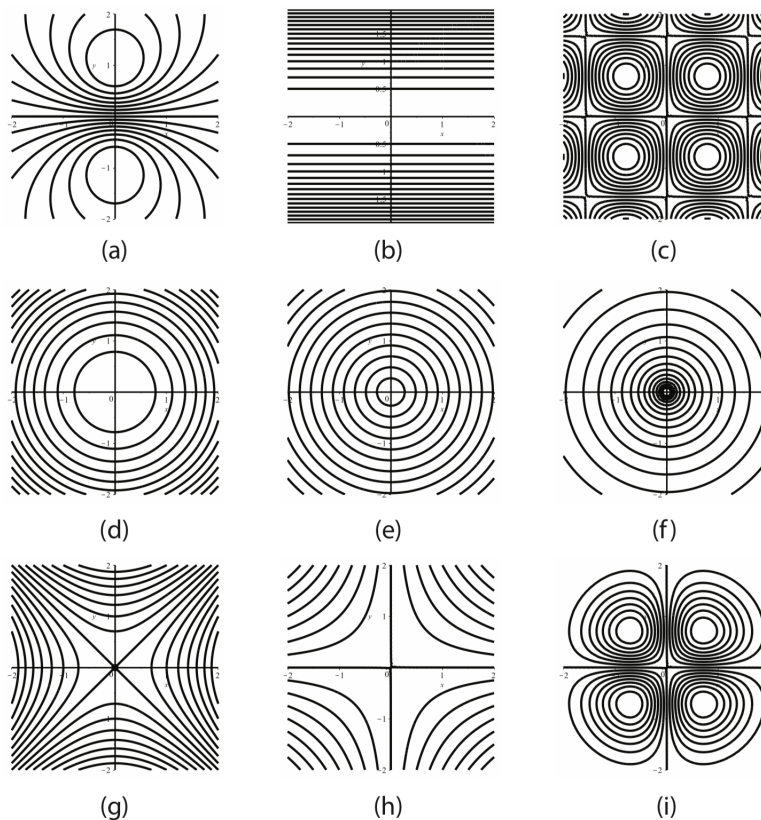

(a)   (b)   (c)

(d)   (e)   (f)

(g)   (h)   (i)

Figure 1:

(a) [2 pts] Which picture represents the level curves of $f(x,y) = y^2$ ___b___
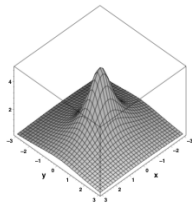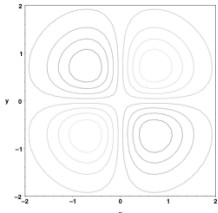
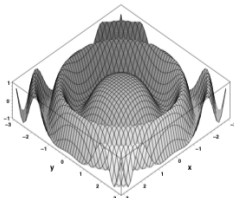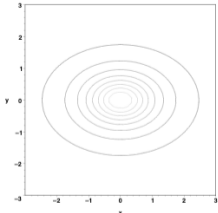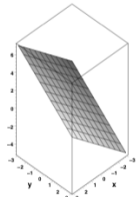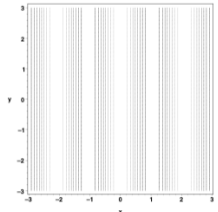(b) [2 pts] Which picture represents the level curves of $f(x,y) = \sin(2x)\sin(2y)$? ___c___

(c) [2 pts] Which picture represents the level curves of $f(x,y) = xy$? ___h___

(d) [2 pts] Which picture represents the level curves of $f(x,y) = \sqrt{x^2 + y^2}$? ___e___

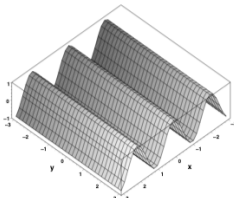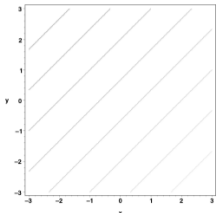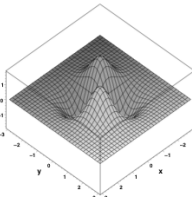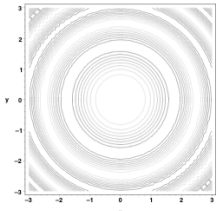(e) [2 pts] Which picture represents the level curves of $f(x,y) = (x^2 + y^2)^2$? ___d___

2. [10 pts] Consider the table of functions, graphs, and level curves shown below.

(a) $f(x,y) = \cos(x^2 + y^2)$	(I)		(A)	
(b) $f(x,y) = 10xye^{-x^2-y^2}$	(II)		(B)	
(c) $f(x,y) = \cos(3x)$	(III)		(C)	
(d) $f(x,y) = \dfrac{5}{x^2 + 2y^2 + 1}$	(IV)		(D)	
(e) $f(x,y) = x - y + 1$	(V)		(E)	

By filling in the table below, correctly match these functions, graphs, and level curves.

Function	Graph	Level Curves
a	II	E
b	V	A
c	IV	C
d	I	B
e	III	D

Points earned: _____
out of a possible 10 points