


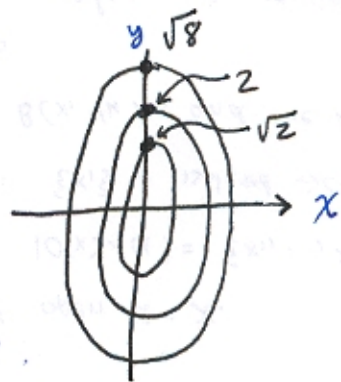
② Let $f(x,y) = 4x^2 + y^2$.

5 pts.

(a) Sketch level curves $f(x,y) = k$, $k = 2, 4, 8$.

-2 if axes not labeled or indicated, or incorrectly labeled.

-2 if drawn as circles or as 



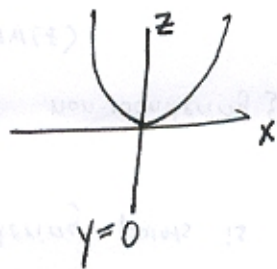
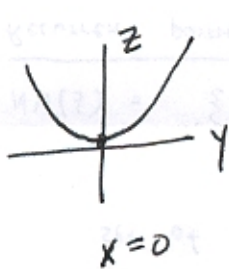
5 pts

(b) Draw vector at $(1,2)$ that's $\nabla f|_{(1,2)}$

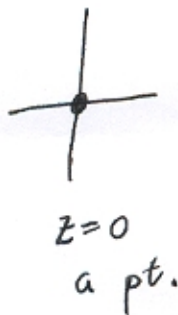
-1/-2 if vector not in correct place. (i.e. on largest ellipse at $\approx (1,2)$).

5 pts

(c) Graph & describe cross sections.



bigger in y-direction



-2 pts for saying $z=0$ doesn't exist,



6 pts

(d)

