Show all work. Incomplete answers may receive little or no credit.

1. Draw and label with their k-values 3 level curves in the xy-plane for $g(x,y) = x - y^2$

2. For each of the following limits, either compute its value or show that it does not exist.

(a) $\displaystyle \lim_{(x,y)\to(0,0)} \frac{x^2 + y^2 + 6}{\cos(6x^2 + y^2)}$

(b) $\displaystyle \lim_{(x,y)\to(0,0)} \frac{2x^3 y}{3x^4 + y^4}$

(c) $\displaystyle \lim_{(x,y)\to(2,1)} \frac{xy - 2y + 4x - 8}{x - 2}$