

Linearization

Problem 1

- a) Find the linearization, L , of $f(x) = 4 - x^2$ for an unknown point a in the interval $(0, \infty)$.
- b) The section of L that lies in the first quadrant is the hypotenuse of a right triangle, with the legs being segments of the axes. What would you need to know in order to find the area of the triangle?
- c) Find the formula for the intercepts of your line in terms of a .
- d) Find a formula for the area of the triangle in terms of a .
- e) Find the global extrema of the area as a function of a . (Do you get both a min and max?)