1. The demand for yams is given by \( q = 5000 - 10p^2 \), where \( q \) is in pounds of yams and \( p \) is the price of a pound of yams.

(a) If the current price of yams is $2 per pound, how many pounds will be sold?

(b) Is the demand at $2 elastic or inelastic? Is it more accurate to say “People want yams and will buy them no matter what the price” or “Yams are a luxury item and people will stop buying them if the price gets too high”?

(c) At a price of $2 per pound, what is the total revenue for the yam farmer?

(d) Write the revenue as a function of price, and then find the price that maximizes the revenue.

(e) What is the quantity sold at the price found in (e). Calculate the elasticity