∂ 14. Suppose that budding economist Buck measures the inverse demand curve for toffee as $P = \$100 - Q^D$, and the inverse supply curve as $P = Q^S$. Buck's economist friend Penny likes to measure everything in cents. She measures the inverse demand for toffee as $P = 10{,}000 - 100Q^D$, and the inverse supply curve as $P = 100Q^S$.

a. Find the slope of the inverse demand curve, and compute the price elasticity of demand at the market equilibrium using Buck's measurements.

b. Find the slope of the inverse demand curve, and compute the price elasticity of demand at the market equilibrium using Penny's measurements. Is the slope the same as Buck calculated? How about the price elasticity of demand?

c. Use calculus to compute the price elasticity of demand at the market equilibrium using Buck's measurements and confirm that your answer is the same as in part (a).

d. Use calculus to compute the price elasticity of demand at the market equilibrium using Penny's measurements and confirm that your answer is the same as in part (b).