

ECO137 Quiz 5 Dec. 15.2017

1. For  $P = \sqrt{5000/Q}$ , find price elasticity of demand.

2. For  $f(x) = x^5 + 4x^3 - 5x - 4$ , answer the following questions.

(a) Use Intermediate Value Theorem to show that the following function has one root in  $[1, 2]$  interval.

(b) Use Newton's Method once to find the approximated root.

3. Suppose the production function of a good is expressed as  $Y(K) = K^{1/3}$  where  $K$  is capital input and  $K \geq 0$ . While the price of the good is 120, the price of capital (price of input) is 20. Find the profit maximizing level of input and the maximized profit.