



Microeconomics Unit 3

Free Response Questions

FRQ #1- The table below shows the short-run total cost function for a typical firm in a perfectly competitive market.

Quantity	0	1	2	3	4	5	6
Total Cost	\$20	\$30	\$34	\$42	\$52	\$72	\$107

- Identify the dollar value of the firm's total fixed cost.
- Calculate each of the following.
 - The average total cost of producing 4 units. Show your work.
 - The average variable cost of producing 2 units. Show your work.
- Complete the following assuming that the price of the product is \$25.
 - Identify the firm's profit-maximizing quantity. Explain how you determined your answer.
 - Calculate the firm's profit or loss at the profit maximizing quantity. Show your work.
- Based on your answers in part (c) (ii), explain what will happen to the number of firms in the industry in the long run.
- If the price of the product fell to \$6, should this firm shut down in the short run? Explain.

FRQ #2- Assume that avocados are produced in a constant-cost perfectly competitive market and that Antonio is a typical avocado farmer earning zero economic profit. Also assume that avocados are used to produce guacamole.

- If Antonio raises the price of his avocados, what will happen to his total revenue? Explain.
- Draw correctly labeled side-by-side graphs for the avocado market and Antonio's firm. On your graphs show each of the following.
 - The equilibrium price and quantity in the market, labeled PM and QM.
 - The profit-maximizing quantity of Antonio's firm, labeled QF.
- Assume that the demand for guacamole decreases. On your graphs in part (b) show what will happen to each of the following in the short run.
 - The market price and quantity of avocados, labeled P1 and Q1.
 - The area of the profit or loss earned by Antonio, shaded completely.
- Relative to P1, will the market equilibrium price increase, decrease, or stay the same in the long run? Explain.
- Assume that the avocado market has reached a new long-run equilibrium. Identify what will happen to each of the following if there is an increase in the demand for guacamole.
 - The market price and quantity of avocados in the long run. Explain.
 - The price and quantity of Antonio's avocados in the short run.