



- Name: _____
 - Date: _____
 - Section: _____
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BUS 201: Principles of Global Economics

Problem Set #5

Fall 2025

INSTRUCTIONS:

- Write your full name, date, and section clearly at the top of the first page.
- This problem set is designed as a check-in assignment to help you practice the core ideas. It is not intended to be difficult, but you are expected to think carefully about your answers.
- For multiple-choice problems, circle the best answer.
- For short-answer problems, limit your response to no more than 4 sentences. Be concise but complete, and use economic reasoning in your answers.
- You may use your textbook, lecture slides, and personal notes.

Problem 1. Multiple Choice

1.A. Implicit costs are defined as:

- a) Costs that require a monetary payment by the firm.
- b) Costs that do not involve a monetary outlay but are opportunity costs.
- c) Costs that remain constant regardless of output.
- d) Costs that decrease as output increases.

1.B. Diminishing marginal product implies that:

- a) Total output falls as more workers are hired.
- b) Each additional worker increases output by more than the previous one.
- c) Each additional worker increases output by less than the previous one.
- d) Marginal cost must be falling as output rises.

1.C. The efficient scale of a firm is the quantity where:

- a) Marginal cost equals average variable cost.
- b) Average total cost is minimized.
- c) Marginal revenue equals marginal cost.
- d) Fixed costs are zero.

1.D. In a competitive market, a firm maximizes profit by producing the quantity at which:

- a) Price equals average total cost.
- b) Marginal revenue equals marginal cost.
- c) Average variable cost equals average total cost.
- d) Price equals average variable cost.

1.E. A firm will shut down in the short run if:

- a) Price is below average total cost.
- b) Price is below average variable cost.
- c) Marginal cost is rising.
- d) Fixed costs increase.

Problem 1. Multiple Choice (continued)

1.F. In the long run, firms in a competitive market:

- a) Can earn persistent positive economic profits.
- b) Exit the market if price is below average total cost.
- c) Produce at the minimum of average variable cost.
- d) Face a downward-sloping marginal revenue curve.

1.G. When new firms enter a competitive market:

- a) Market supply decreases and price rises.
- b) Market supply increases and price falls.
- c) Existing firms earn higher profits.
- d) Long-run equilibrium price increases.

1.H. Fixed costs are best described as:

- a) Costs that rise as output increases.
- b) Costs that must be paid even if output is zero.
- c) Costs that vary directly with production.
- d) Costs that equal marginal cost at the efficient scale.

1.I. In a competitive market, marginal revenue equals:

- a) Average total cost.
- b) The market price.
- c) The minimum of variable cost.
- d) The difference between price and average cost.

1.J. If firms in a competitive market are making positive economic profits, we expect that in the long run:

- a) Some firms will exit the market.
- b) The market price will rise.
- c) New firms will enter the market, driving profits to zero.
- d) Average total cost will increase for all firms.

Problem 2. True / False

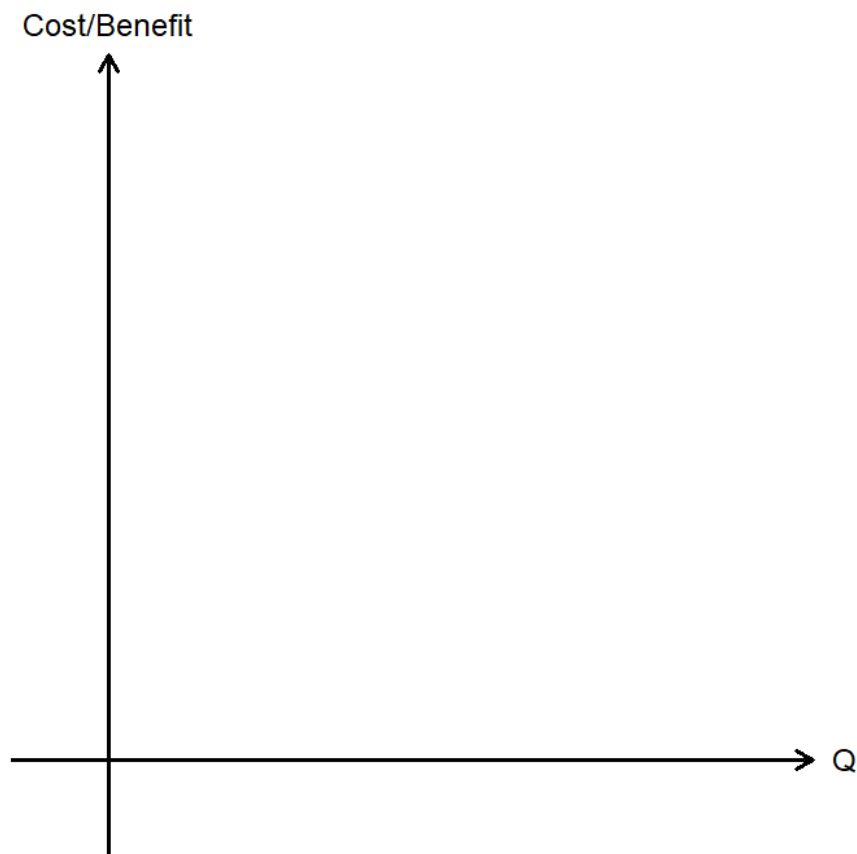
Determine whether each statement is TRUE or FALSE. If you deem that the statement is FALSE, you MUST justify your verdict by providing a brief explanation.

- 2.A. If marginal cost is rising, marginal product must be rising as well.
- 2.B. Average fixed cost always decreases as output rises.
- 2.C. In the short run, a firm continues to operate as long as price is greater than or equal to average variable cost.
- 2.D. In long-run competitive equilibrium, price equals marginal cost and average total cost.

Problem 3. Short Answer

3.A. Using a properly labeled cost diagram, illustrate the following for a competitive firm. On your diagram, clearly label:

- The Average Total Cost (ATC) curve,
- The Average Variable Cost (AVC) curve,
- The competitive firm's short-run supply curve.



Problem 3. Short Answer

- 3.B. Consider the following cost data for a firm. The fixed cost (FC) is constant at \$100 for all quantities. Using the information on total cost and fixed cost, compute the variable cost (VC) and marginal cost (MC) for quantities from $Q=1$ to $Q=5$.

Q	TC	FC	VC	MC
0	100	100		N/A
1	140	100		
2	185	100		
3	235	100		
4	290	100		
5	350	100		

- 3.C. Explain why diminishing marginal product causes the marginal cost curve to rise. Provide a concise economic explanation.

Problem 3. Short Answer

3.D. A competitive firm faces a market price of \$50. Its total cost at different output levels are listed below:

- First, use the information in the table to compute the firm's marginal cost (MC) and marginal revenue (MR).
- Then, determine the profit-maximizing quantity.

Q	P	MR	TC	MC
0	50		200	N/A
1	50		210	
2	50		225	
3	50		260	
4	50		300	
5	50		350	
6	50		410	
7	50		485	
8	50		590	
9	50		700	

• Original Score: _____

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