CONCORDIA COLLEGE
MOORHEAD, MINNESOTA

- Name: ________________
- Date: ________________
- Section: ________________

BUS 201: Principles of Global Economics

Problem Set #5: Suggested Solutions

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) Marginal revenue equals marginal cost.
c) Fixed costs are zero.
d) Average total cost is minimized.

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) **Exit the market if price is below average total cost.**
b) Can earn persistent positive economic profits.
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 vary directly with production.
c) Costs that equal marginal cost at the efficient scale.
d) **Costs that must be paid even if output is zero.**

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.

- FALSE
- Rising marginal cost is associated with *falling* marginal product, not rising.

2.B. Average fixed cost always decreases as output rises.

- TRUE

2.C. In the short run, a firm continues to operate as long as price is greater than or equal to average variable cost.

- TRUE

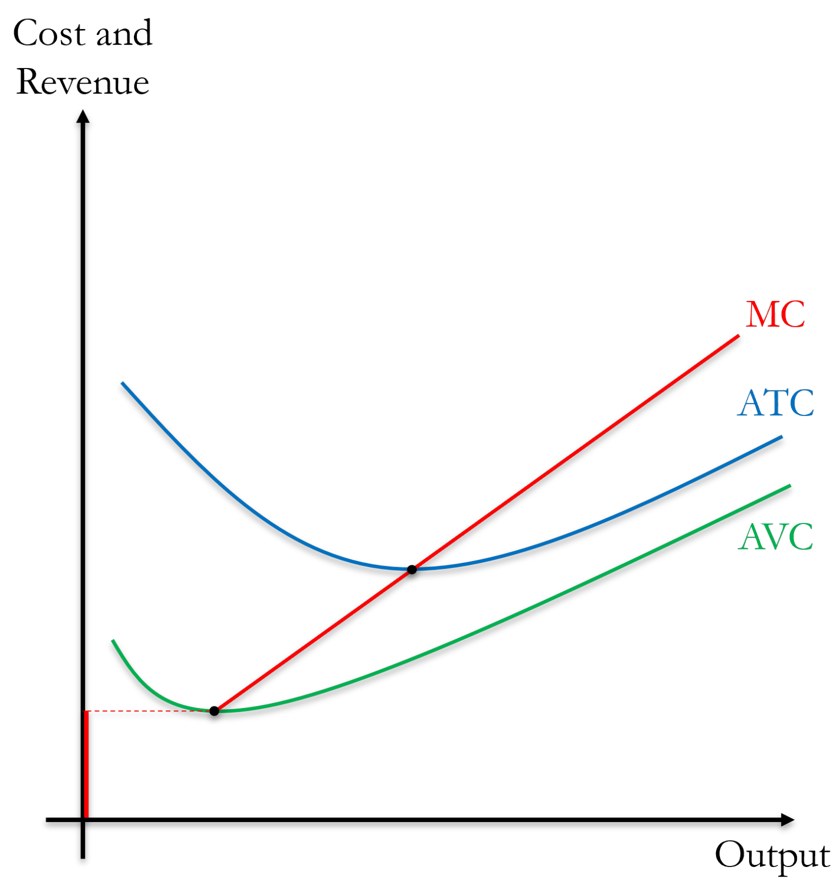
2.D. In long-run competitive equilibrium, price equals marginal cost and average total cost.

- TRUE

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	0	N/A
1	140	100	40	40
2	185	100	85	45
3	235	100	135	50
4	290	100	190	55
5	350	100	250	60

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

- Diminishing marginal product occurs when each additional unit of input, such as labor, adds less to total output than the previous unit. As marginal product falls, the firm must use more and more input to produce each additional unit of output. This increases the cost of producing extra units because the firm is getting less output per unit of input. Therefore, marginal cost rises when marginal product falls, since marginal cost reflects the additional cost required to produce one more unit of output.

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	50	200	N/A
1	50	50	210	10
2	50	50	225	15
3	50	50	260	35
4	50	50	300	40
5	50	50	350	50
6	50	50	410	60
7	50	50	485	75
8	50	50	590	105
9	50	50	700	110

- Original Score: ____________________
- Original Date: ____________________
- Recovered Score: ____________________
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