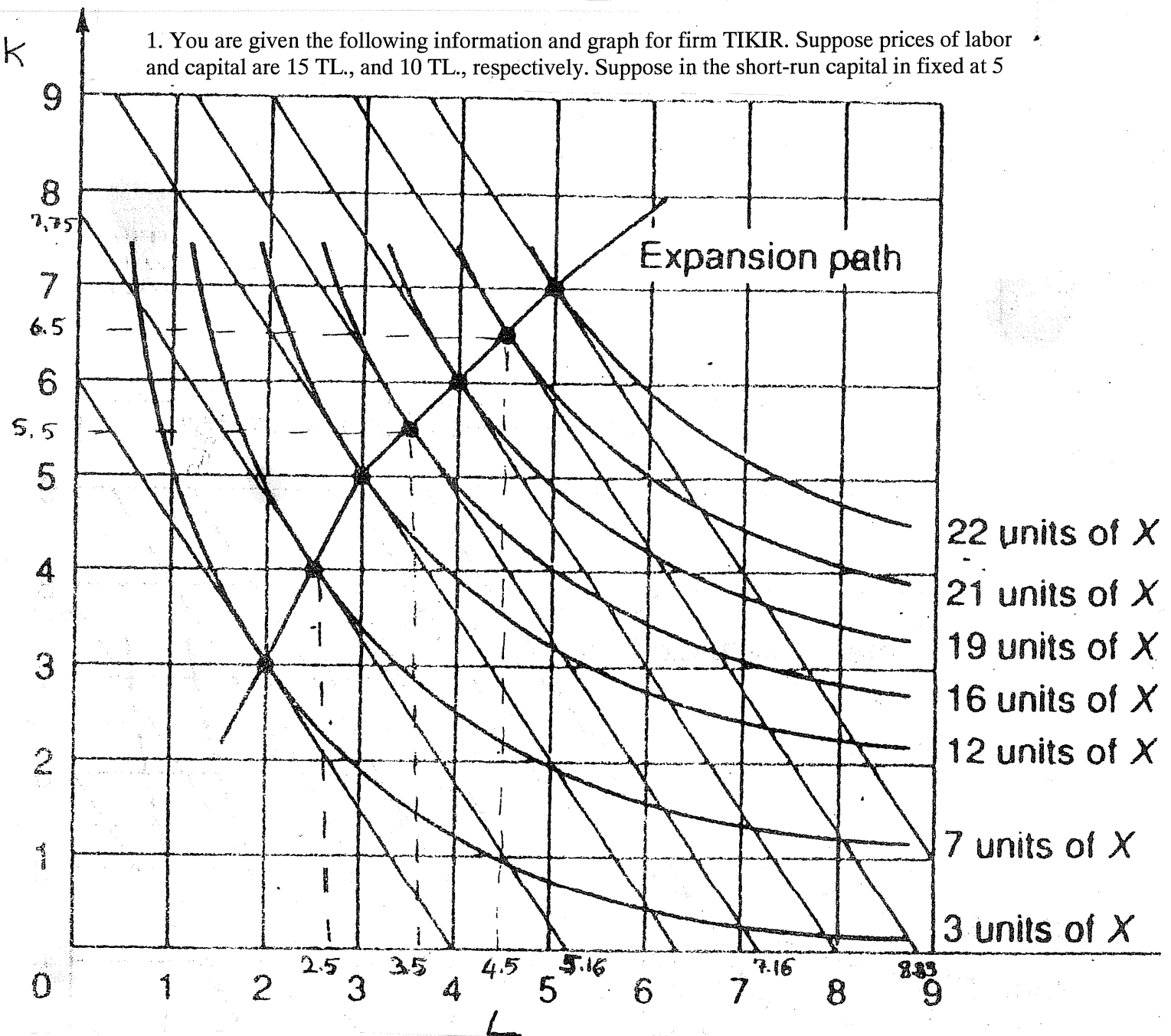


HOMEWORK V
 (Submission date: Dec.,15 2023)
 (Late submissions will not be evaluated)

1. You are given the following information and graph for firm TIKIR. Suppose prices of labor and capital are 15 TL., and 10 TL., respectively. Suppose in the short-run capital is fixed at 5



- Draw the LRAC for each output level indicated on the graph.
- Calculate TFC, TVC, TC, AFC, AVC, AC and MC for each output level in the short-run.
- Demonstrate SRATC and LRAC tangency points for this firm.

2. Consider the following Total Product schedule of Ahmet's Organic Farm:

<u>Fertilizer input</u> <u>(100 kg-bags)</u>	<u>Total Product</u> <u>(vegetables in kgs)</u>	<u>Average Product</u>	<u>Marginal Product</u>
0	0		
1	14		
2	36		
3	66		
4	100		
5	130		
6	156		
7	175		
8	184		
9	185.4		
10	180		
11	165		
12	144		

- Complete the above table.
- Draw the graphs of TP, AP and MP curves.
- At what point do diminishing returns to output set in. Show it on the appropriate diagram. What can be the reason for diminishing returns?
- What is the relationship between AP and MP?

3. Suppose that a firm's cost of labor is 10 TL. and per unit and its cost of capital is 40 TL. per unit.

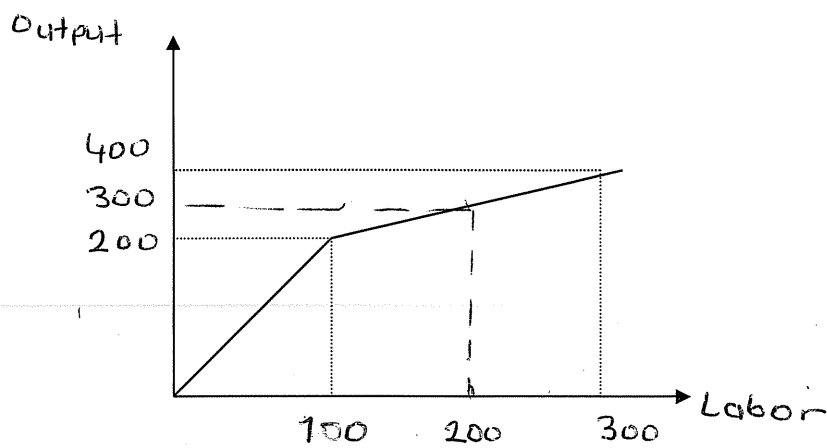
- Draw an isocost line such that total cost is constant at 200 TL. Write the equation of the isocost line.
- If this firm is producing efficiently, what is the marginal rate of substitution between labor and capital?
- Show your answer in (b) by using the isocost line and the isoquant curve.

4.

<u>Q</u>	<u>TFC</u>	<u>TVC</u>	<u>TC</u>	<u>AFC</u>	<u>AVC</u>	<u>AC</u>	<u>MC</u>
0		0	12				
6		3	15				
15		6					
21		9					
24		12					
26		15					
27		18					

Complete the above table.

5. The following curve is the production function for a firm that uses just one variable factor of production, labor.



a. Fill in the below table if the wage rate is 5 TL. and this firm has fixed cost of 100 TL.

Labor	Output	Average Product	Marginal Product	Total Cost	Marginal Cost
0					
50					
100					
200					
300					

b. Graph the firm's average product (AP) marginal product (MP) curves on separate graphs.

c. Graph the firm's marginal cost curve.