What is Total Product?

Worksheet

Total product is the entire quantity of output produced by a firm using a specific amount of inputs, often measured as units of output per time period.

Questions

1. Total product measures…

A) the cost of producing output
B) the total quantity of output produced
C) profit per unit
D) the price of the product

2. If TP goes 0→50→100→140→170 with 1, 2, 3, 4, 5 workers, marginal product of 3rd worker is…

A) 140 units
B) 40 units
C) 70 units
D) 46.67 units

3. Total product increases but at a slower rate when…

A) marginal product is zero
B) marginal product is diminishing but still positive
C) capital is infinite
D) average product exceeds total product

4. Which shows the relationship between TP and quantity of input?

A) Demand curve
B) Total product curve
C) Cost curve
D) Price curve

5. A bakery employs 5 workers and produces 100 loaves per day. What is total product?

6. A factory's output per month is: 1 worker → 50 units, 2 workers → 110 units, 3 workers → 150 units. Find TP with 2 workers.

7. An orchard harvest: 2 pickers collect 400 kg, 4 pickers collect 700 kg. What is total product per picker on average with 4 pickers?

8. Define: What is total product?

9. Define: How is total product different from average product?

10. Define: How is total product different from marginal product?

Answer Key

1. B) the total quantity of output produced — TP is purely a quantity measure — how much a firm produces with given inputs.
2. B) 40 units — $MP_3 = TP_3 - TP_2 = 140 - 100 = 40$ units.
3. B) marginal product is diminishing but still positive — Positive but diminishing MP means TP still rises but by smaller amounts each time.
4. B) Total product curve — The TP curve plots input quantity on the x-axis and total output on the y-axis.
5. Total product (TP) = 100 loaves per day with 5 workers TP measures the total output of the firm
6. Total product with 2 workers = 110 units (cumulative output of both)
7. TP with 4 pickers = 700 kg Average product = 700/4 = 175 kg per picker
8. The total quantity of output a firm produces using a specific quantity of inputs.
9. TP is total output; AP = TP/quantity of input. AP is output per unit input.
10. TP is cumulative output; MP is the extra output from one more unit of input.