

Answer on Question #44109 – Economics - Microeconomics

The amount of fish caught per week on a trawler is a function of the crew size assigned to operate the boat. Based on past data, the following production schedule was developed:

CRRW SIZE(Number of workers) Amount of Fish caught per week (Hundreds of LBS)

- a. Over what ranges of workers are there (i) increasing, (ii) constant, (iii) decreasing and (iv) negative returns?

Solution

N, workers	Q, hundreds of LBS	MP, hundreds of LBS
2	3	-
3	6	3
4	11	5
5	19	8
6	24	5
7	28	4
8	31	3
9	33	2
10	34	1
11	34	0
12	33	-1

Marginal product (MP) of an input is the extra output that can be produced by using one more unit of the input (for instance, the difference in output when a firm's labor usage is increased from five to six units), assuming that the quantities of no other inputs to production change.

- i) We can see increasing returns in the range from 2 to 5 workers, when MP increases.
ii) We can't see the constant returns in our case, because MP is not constant in any range.
iii) We can see decreasing returns in the range from 5 to 12 workers, when MP decreases.
iv) We can see negative returns, when the number of workers equals 12, in this point MP is negative (MP = -1).