

## Answer on Question #44111 – 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)

How large a crew should be used if the trawler owner is interested in maximising the average amount of fish caught per person?

### Solution

N, workers	Q, hundreds of LBS	MP, hundreds of LBS	AP, hundreds of LBS
2	3	-	1.5
3	6	3	2
4	11	5	2.75
5	19	8	3.8
6	24	5	4
7	28	4	4
8	31	3	3.875
9	33	2	3.67
10	34	1	3.4
11	34	0	3.09
12	33	-1	2.75

Average product, usually abbreviated AP, is found by dividing total product (quantity of fish, Q) by the quantity of the variable input (number of workers, N):  $AP = Q/N$ .

Average product is maximized, when 6 or 7 workers are used, so to avoid using excess workers, 6 workers should be used if the trawler owner is interested in maximising the average amount of fish caught per person.