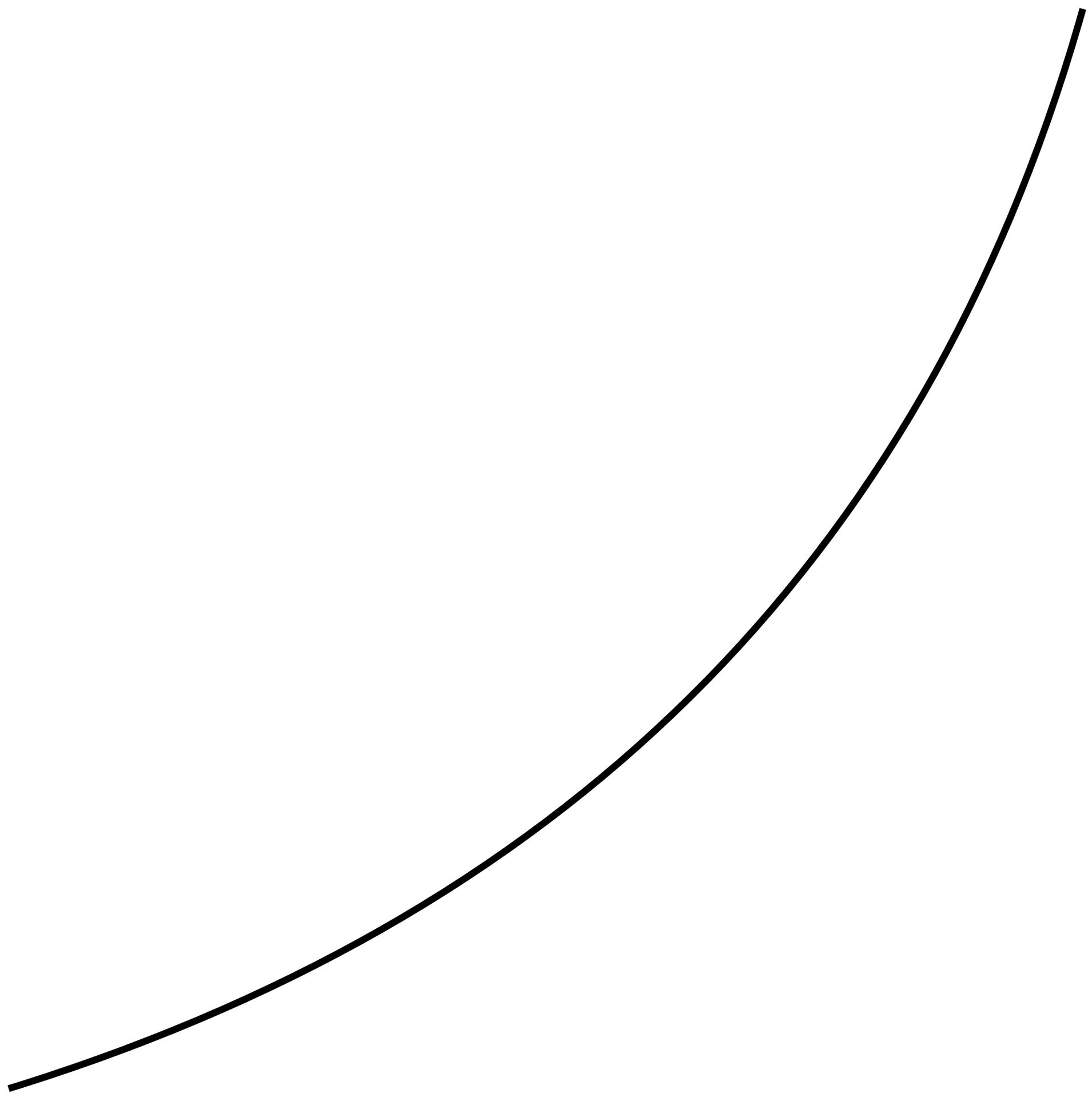


1

2

3

4

5

0

Using the Marginal Product (MP) to calculate the Total Product (TP)

From the graph we know that when worker 1 is hired, output increase by 5 units: $MP_1 = 5$; TP with one worker = 5 units

TP

Workers: Labor

Labor (L)	MP	TP
0	-	0

When worker 2 is hired, output increase by 7 units: TP with two workers = 5 units (from worker 1) + 7 units (from worker 2) = 12

$5+7=12$

$MP_3 = 9$ units.

$TP\ (L=3) = 5\ (MP_1) + 7\ (MP_2) + 9\ (MP_{3)} = 21$

1


5

5

2

7

5

12

$5+7+9=21$

3


9

21

$MP_4 = 12$ units.

$TP\ (L=4) = 5\ (MP_1) + 7\ (MP_2) + 9\ (MP_{3)} + 12\ (MP_4) = 33$

$5+7+9+12=33$

4


1

2

33

$MP_5 = 14$ units

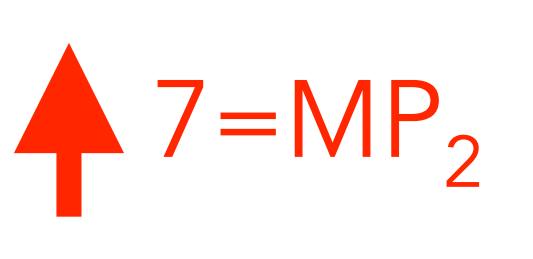
$TP\ (L=5) = 5\ (MP_1) + 7\ (MP_2) + 9\ (MP_{3)} + 12\ (MP_4) + 14\ (MP_5) = 47$

$$5+7+9+12+14=47$$

5


4

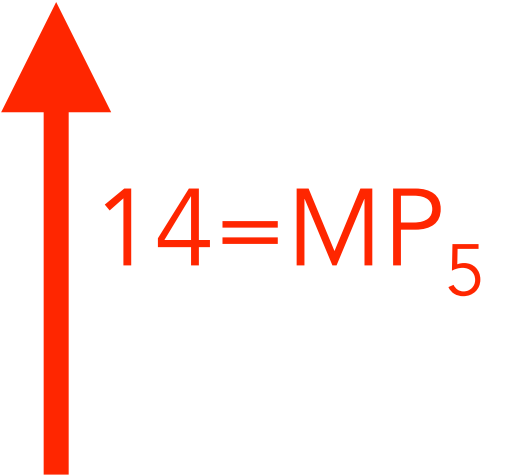
47


7=MP2

$5 = MP_1$


9=MP3


12=MP4


14=MP5


16=MP6

$MP_6 = 16$ units

$TP\ (L=6) = 5\ (MP_1) + 7\ (MP_2) + 9\ (MP_{3)} + 12\ (MP_4) + 14\ (MP_5) + 16\ (MP_6) = 63$

$5+7+9+12+14+16=63$

63

We can write a formula to calculate the TP for n workers as the sum of the MP of these n workers:

$$TP\ (L=n) = MP_1 + MP_2 + MP_3 + MP_4 + MP_5 + \ldots + MPn$$

12


14

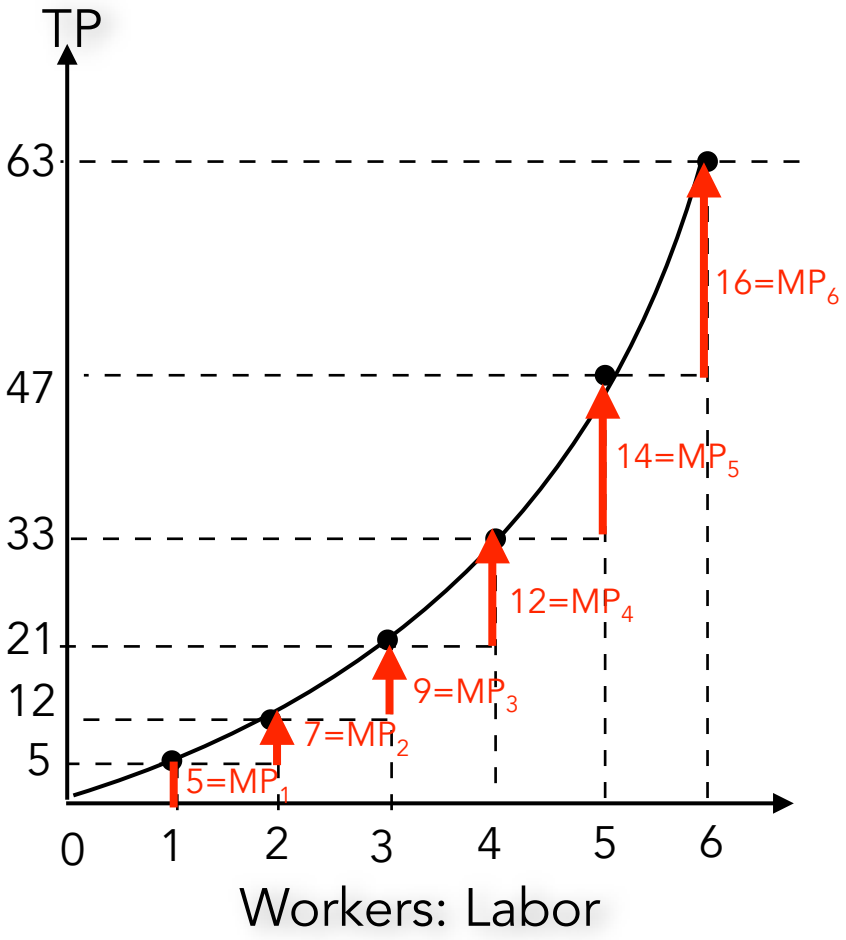
16

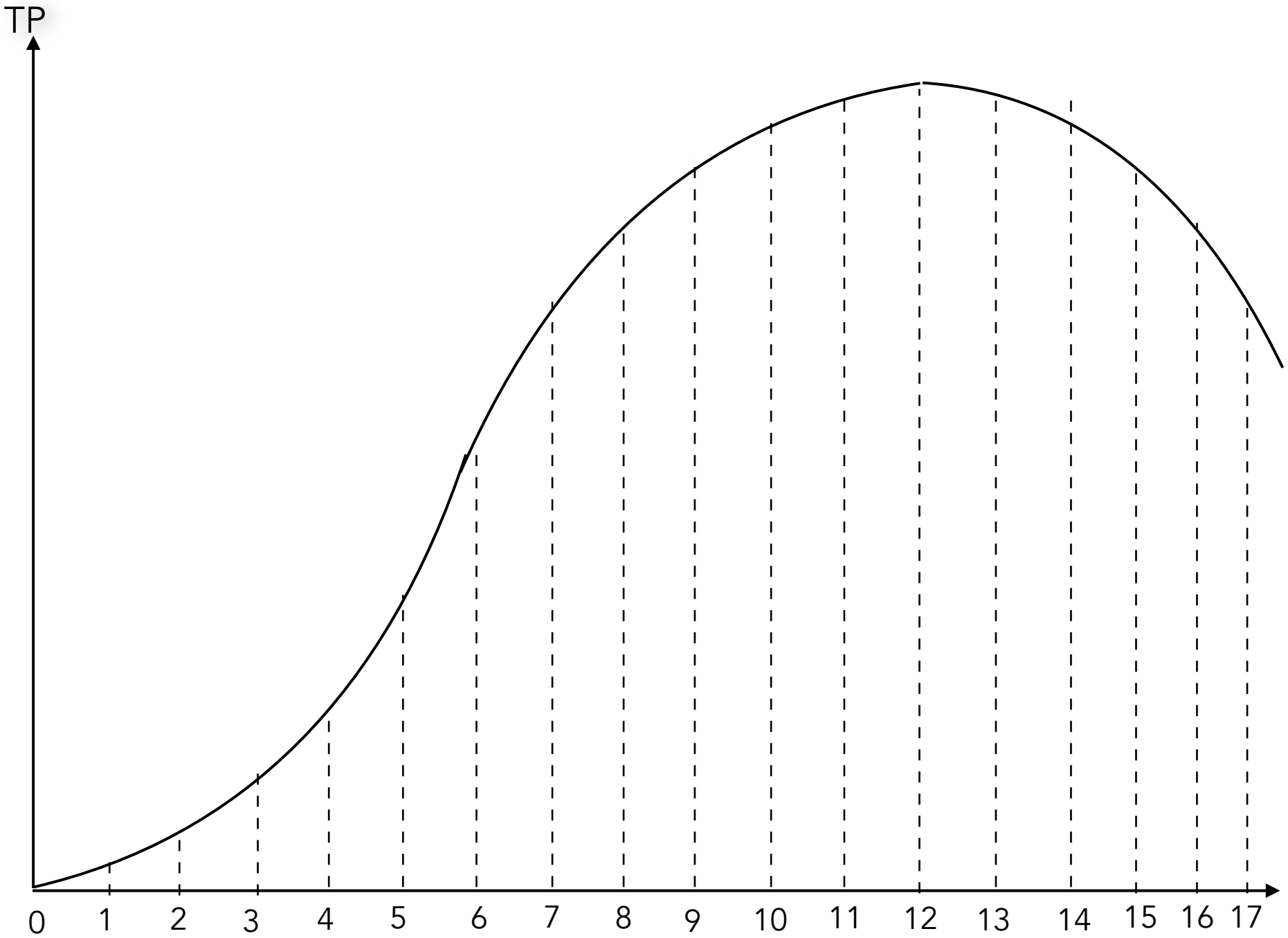
Using the Marginal Product (MP) to calculate the Total Product (TP)

We can write a formula to calculate the TP for n workers as the sum of the MP of these n workers:

$$TP\ (L=n) = MP_1 + MP_2 + MP_3 + MP_4 + MP_5 + \ldots + MPn$$

Labor (L)	MP	TP
0	-	0
1	5	5
2	7	5+7 =12
3	9	5+7+9 =21
4	12	5+7+9+12=33
5	14	5+7+9+12+14=47
6	16	5+7+9+12+14+16=63




TP
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17