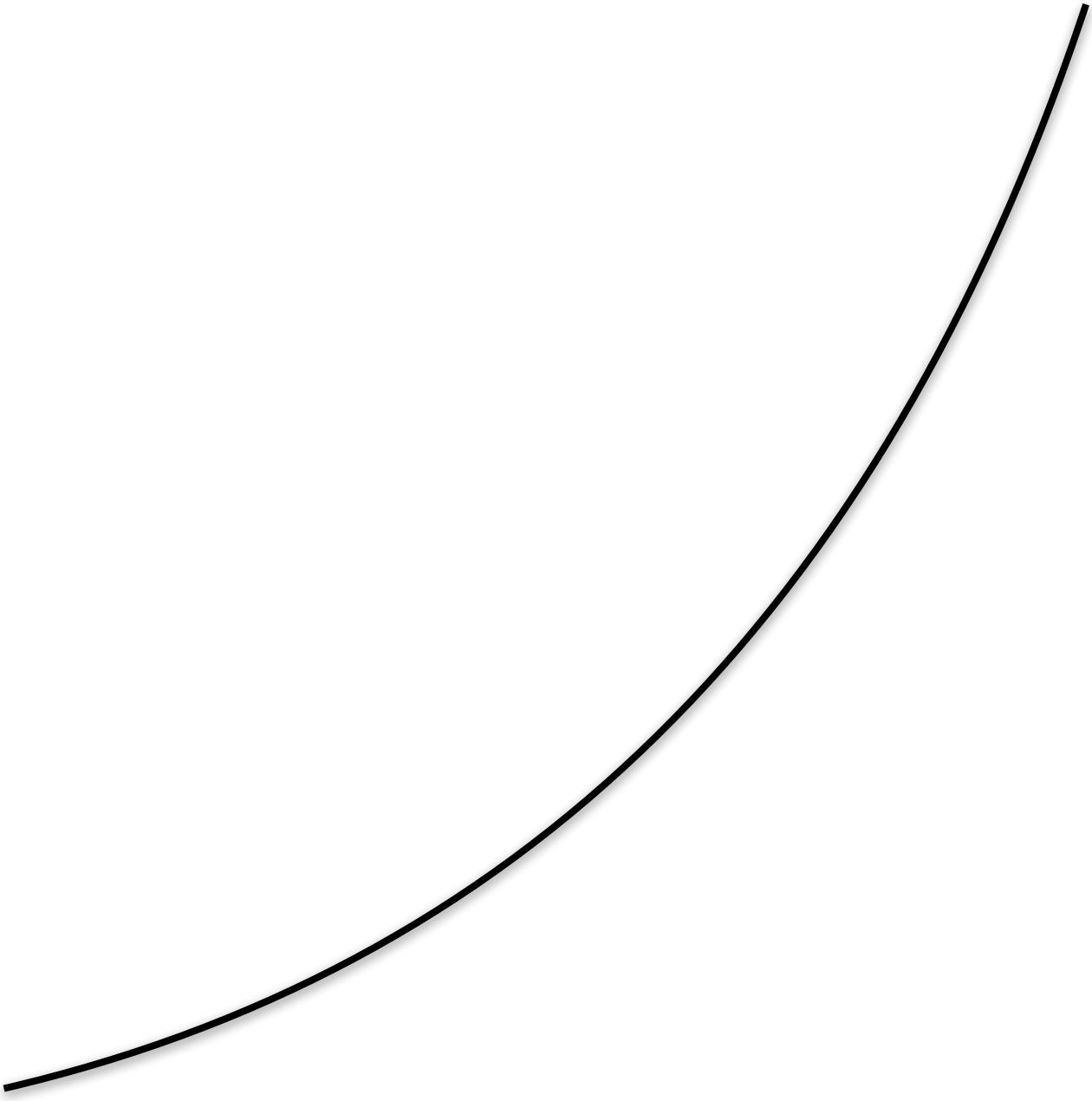

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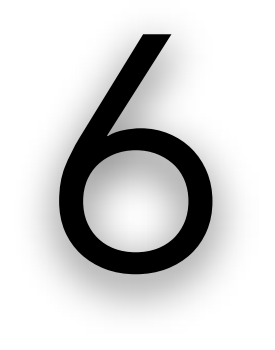

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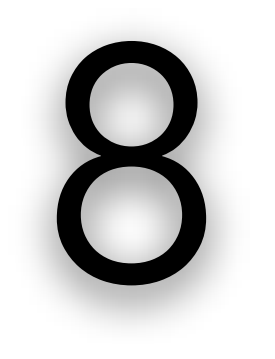

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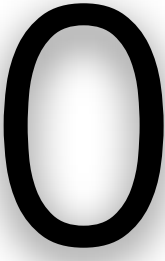
12

13

14

15

16



5 – – – – – – –

12

21

33 - - - - - - - - - - - - - - - - - -

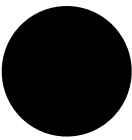
47

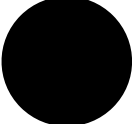
63

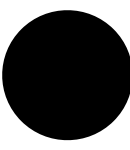
78 ----------

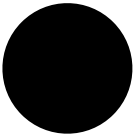
Total Product **Decrease**

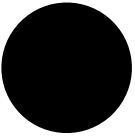
17











When worker 13 is hired, total product **drops** by 2 units:

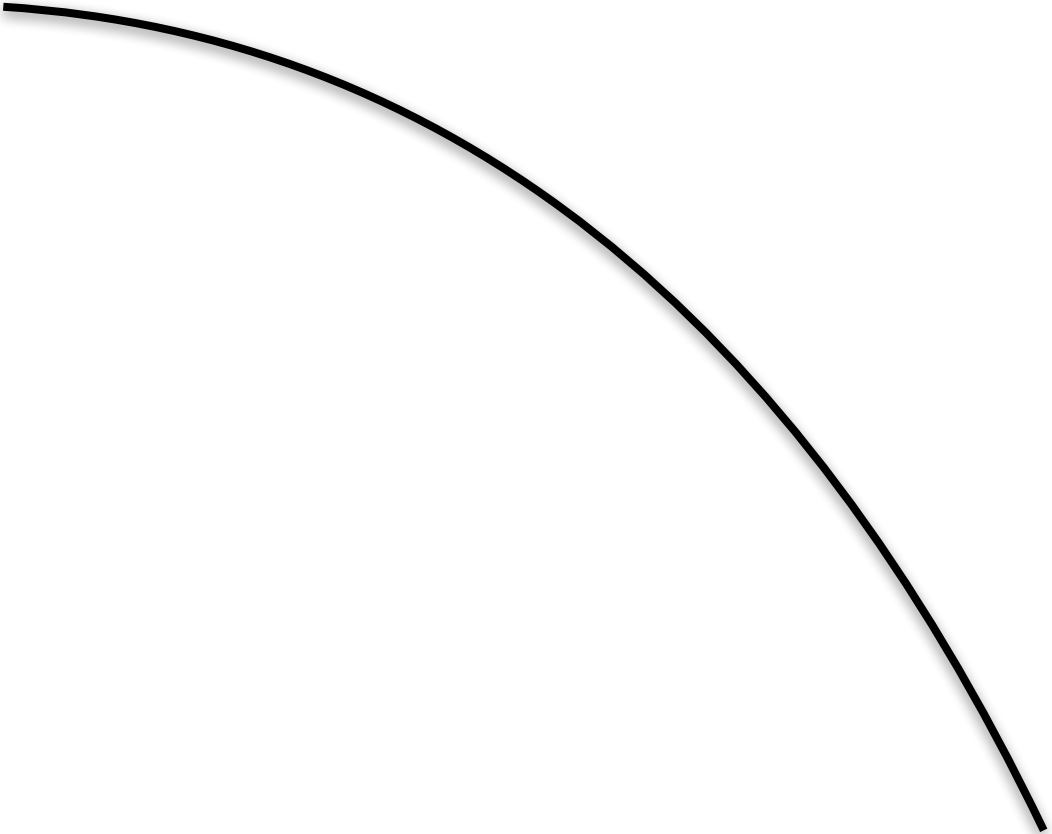
$MP_{13} = -2$

When worker 14 is hired, total product **drops** by 5 units:

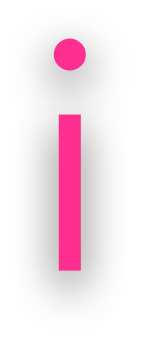
$MP_{14} = -5$

When worker 15 is hired, total product **drops** by 8 units:

$MP_{15} = -8$



a



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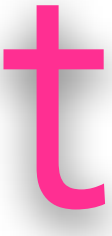

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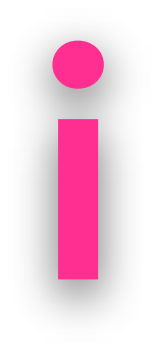
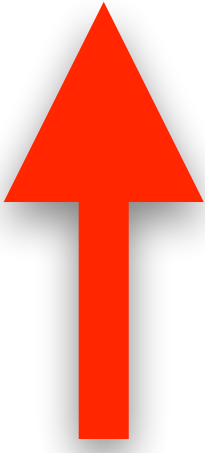


2

5

3

7



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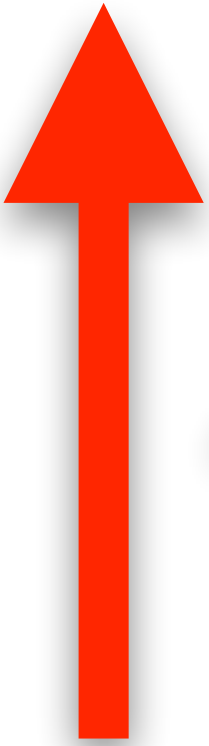
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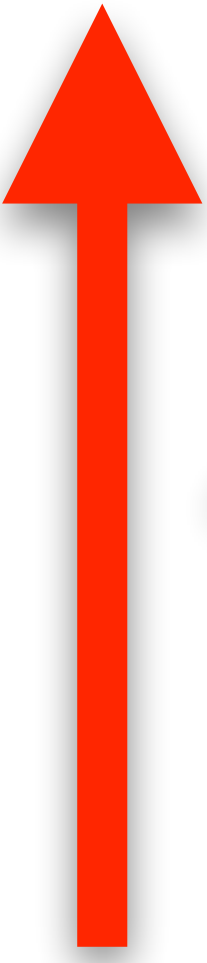
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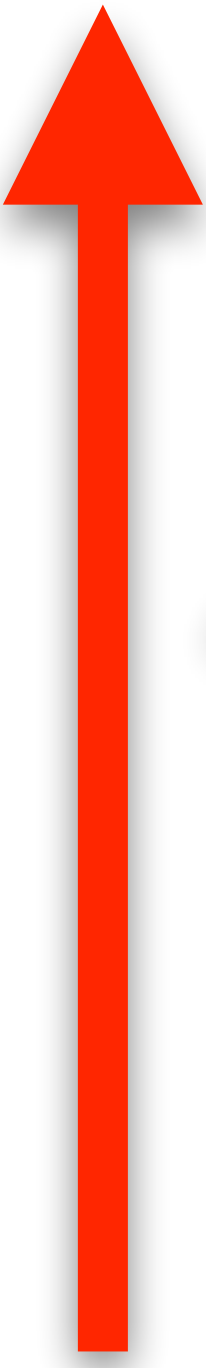
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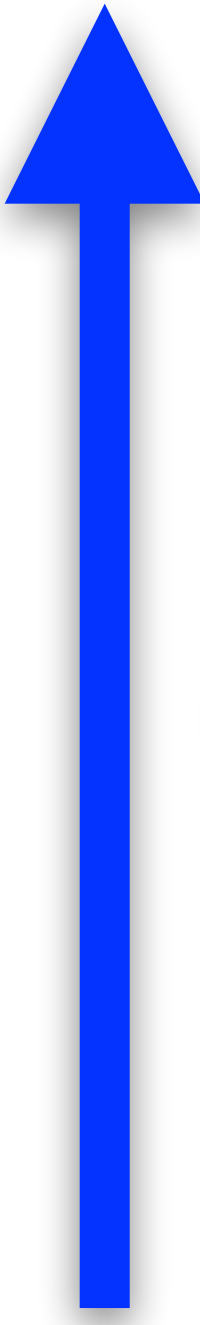
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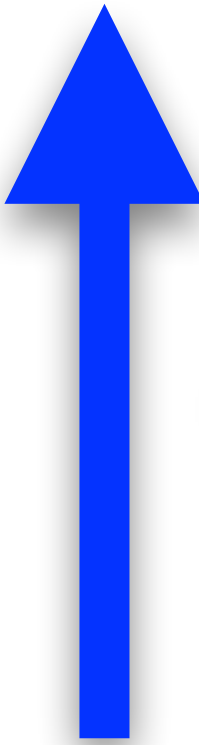
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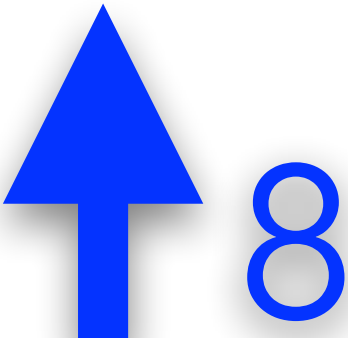
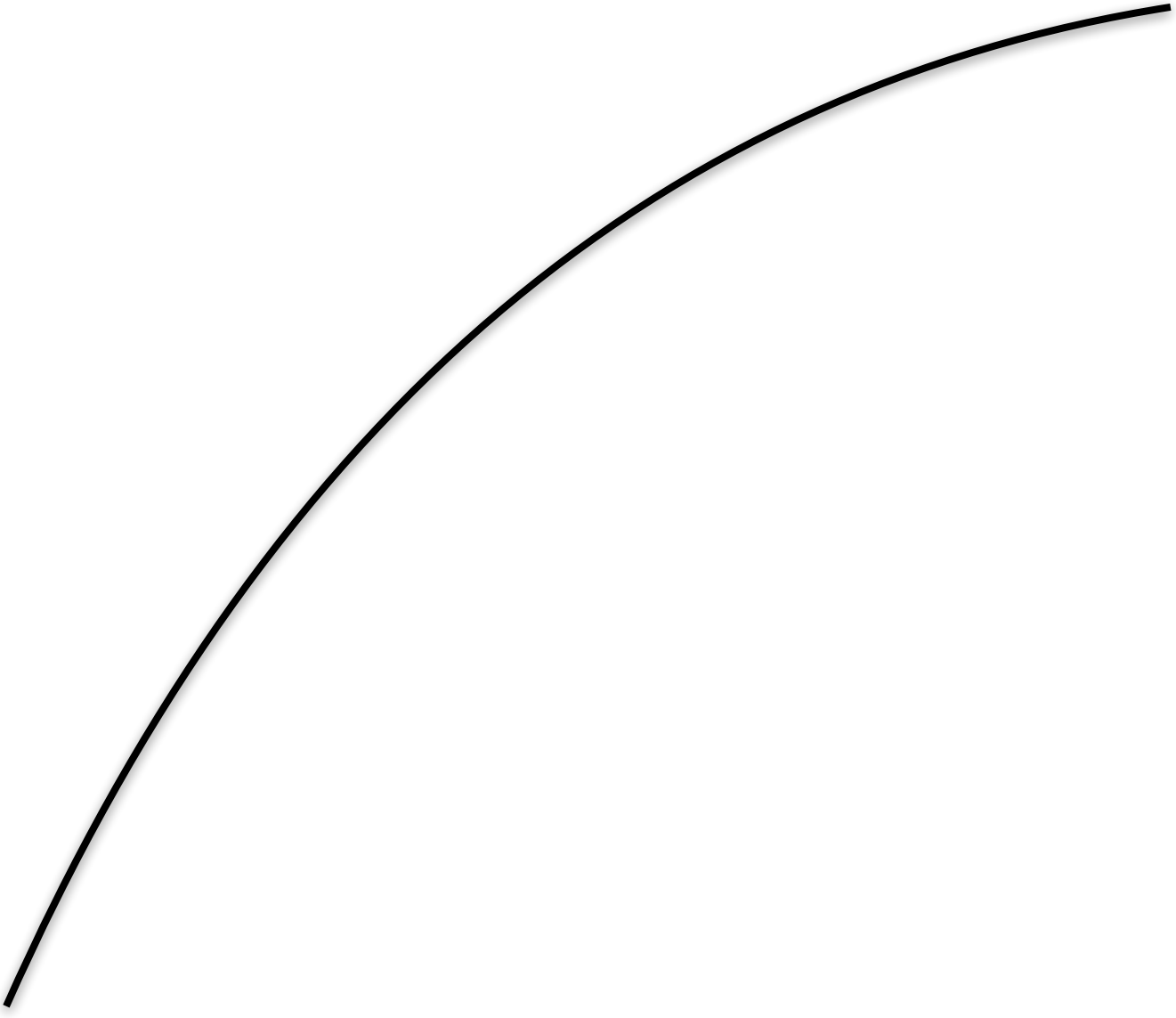
11

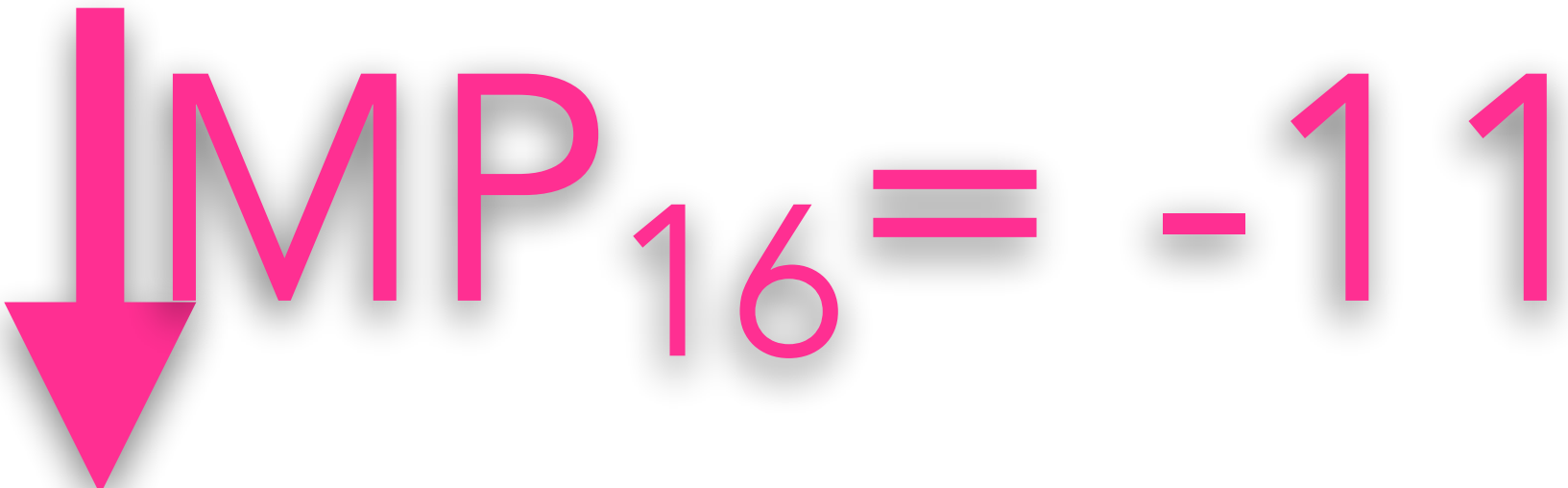


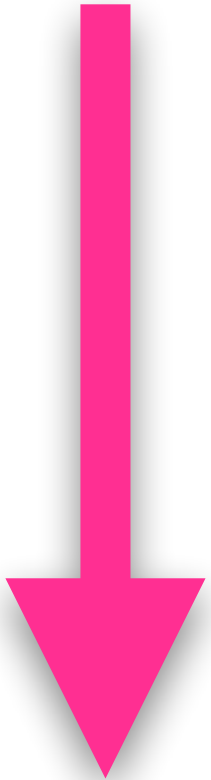


Because the Marginal Product is negative,

MP14= - 5

MP15= - 8

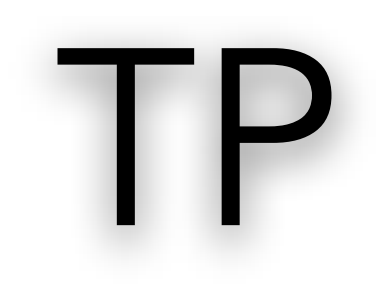

MP16= -11



$MP_{17} = -13$

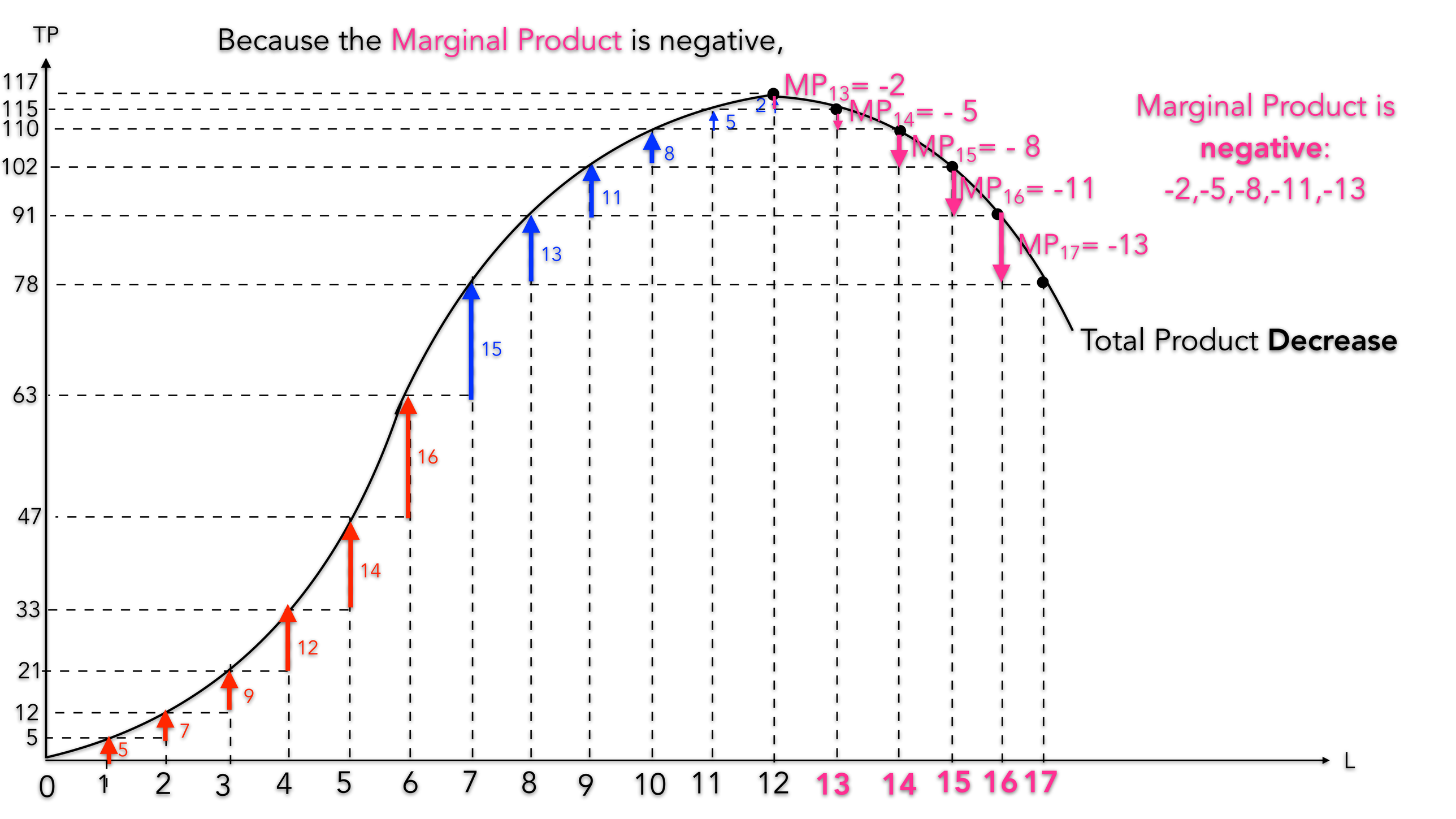
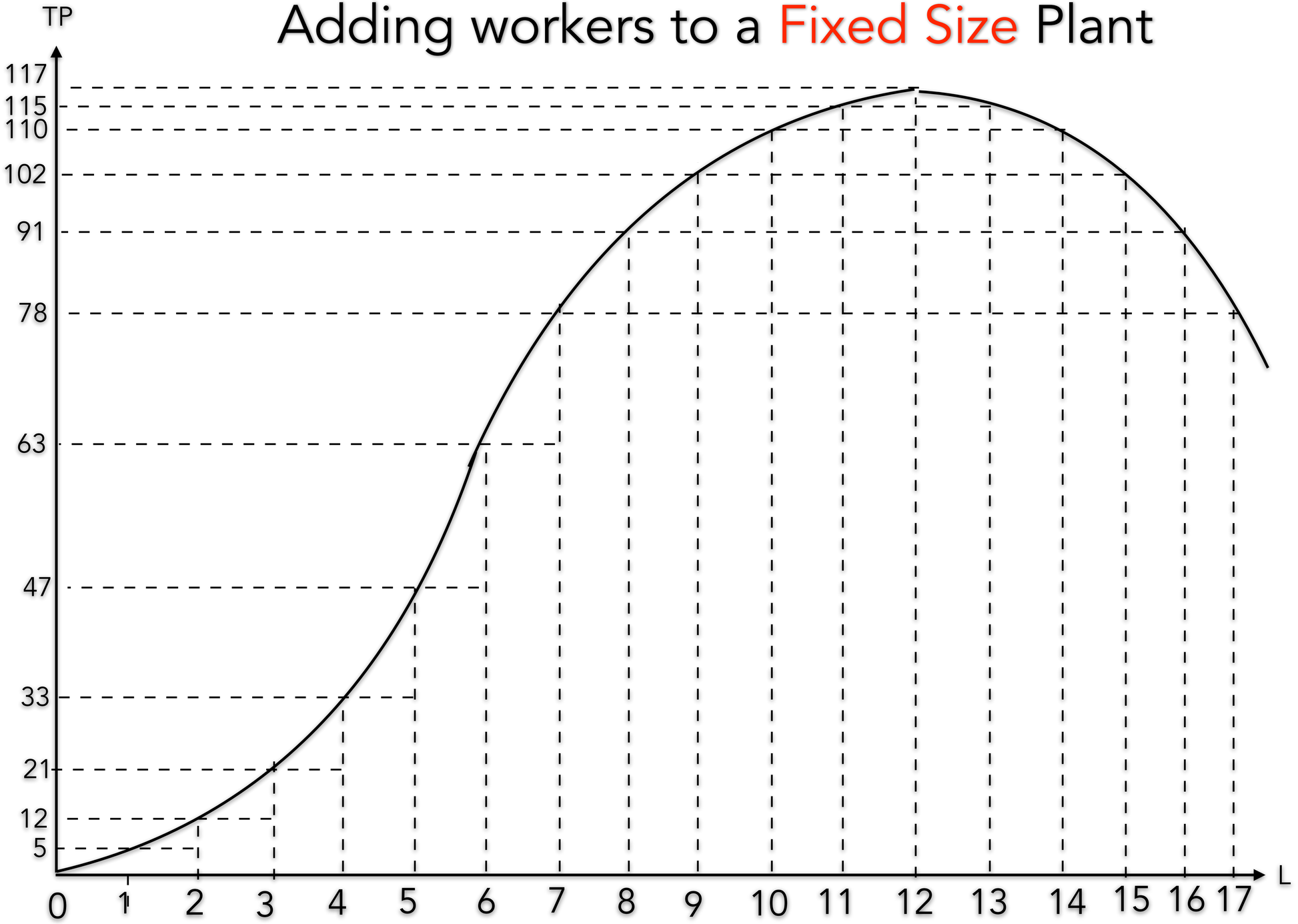
5

$$MP_{13} = -2$$


TP

Marginal Product is **negative**:

-2,-5,-8,-11,-13


Because the Marginal Product is negative,
TP
117
115
110
102
91
78
63
47
33
21
12
5
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
L
5
7
9
12
14
16
15
13
11
8
5
2
MP13= -2
MP14= - 5
MP15= - 8
MP16= -11
MP17= -13
Marginal Product is negative:
-2,-5,-8,-11,-13
Total Product Decrease

Adding workers to a Fixed Size Plant