



# Marginal Product

$$50/10 = 5$$

$$70/10 = 7$$

$$90/10 = 9$$

$$120/10 = 12$$

$$140/10 = 14$$

$$160/10 = 16$$

$$150/10 = 15$$

$$130/10 = 13$$

$$110/10 = 11$$

$$80/10 = 8$$

$$50/10 = 5$$

$$20/10 = 2$$

$$- 20/10 = - 2$$

$$- 50/10 = -5$$

$$- 80/10 = -8$$

$$- 110/10 = -11$$

$$- 130/10 = -13$$

TP	Change in TP	Change in L
0		
50	50-0=50	10-0=10
120	120-50=70	20-10=10
210	210-120=90	30-20=10
330	330-210=120	40-30=10
470	470-330=140	50-40=10
630	630-470=160	60-50=10
780	780-630=150	70-60=10
910	910-780=130	80-70=10
1,020	1020-910=110	90-80=10
1,100	1100-1020=80	100-90=10
1,150	1150-1100=50	110-100=10
1,170	1170-1150=20	120-110=10
1,150	1150-1170=-20	130-120=10
1,100	1100-1150=-50	140-130=10
1,020	1020-1100=-80	150-140=10
910	910-1020=-110	160-150=10
780	780-910=-130	170-160=10

Labor
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
170

Leave Blank!!





T

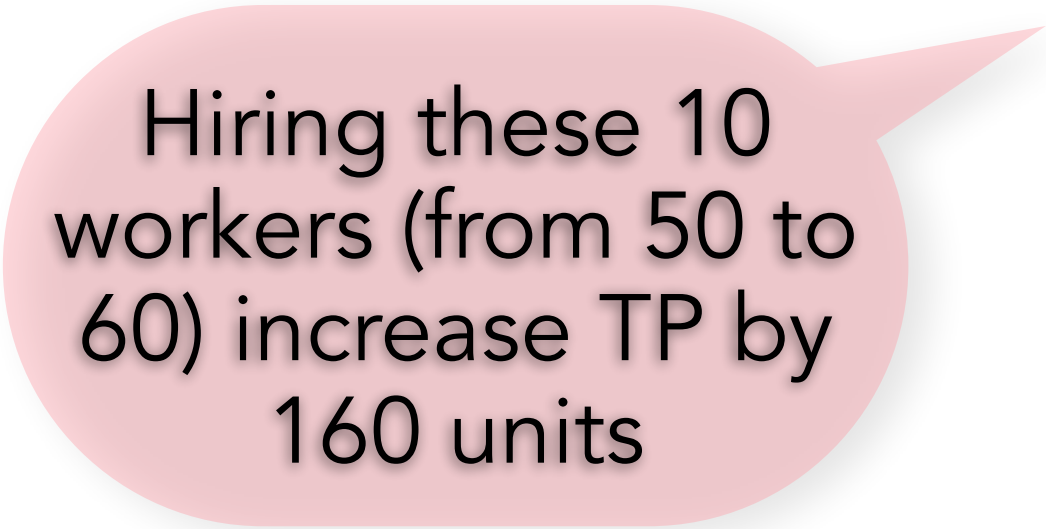
P

$$MP = \frac{\Delta T P}{\Delta L}$$





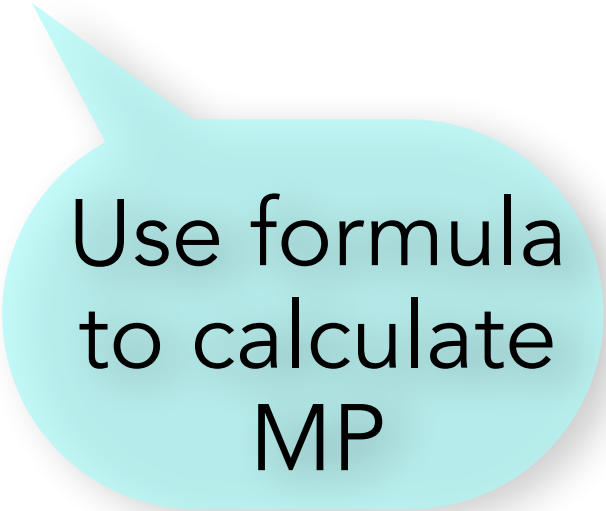
Labor  
increases in  
groups of 10  
workers  
 $\Delta L = 10$

A pink speech bubble with a tail pointing towards the top right corner of the image. The bubble contains text about hiring workers and its effect on Total Product (TP).

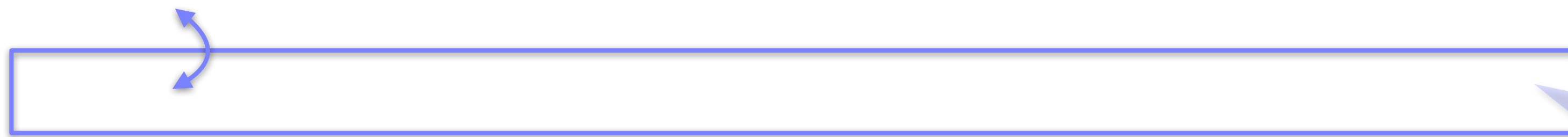
Hiring these 10  
workers (from 50 to  
60) increase TP by  
160 units



The MP of each  
one of these 10  
workers is 16  
units



Use formula  
to calculate  
MP



The MP of each  
one of these 10  
workers is 8  
units



The MP of each  
one of these 10  
workers is -5  
units

Labor	TP	Change in TP	Change in L	Marginal Product
0	0	$\Delta TP$	$\Delta L$	Leave Blank!
10	50	$50-0=50$	$10-0=10$	$50/10 = 5$
20	120	$120-50=70$	$20-10=10$	$70/10 = 7$
30	210	$210-120=90$	$30-20=10$	$90/10 = 9$
40	330	$330-210=120$	$40-30=10$	$120/10 = 12$
50	470	$470-330=140$	$50-40=10$	$140/10 = 14$
60	630	$630-470=160$	$60-50=10$	$160/10 = 16$
70	780	$780-630=150$	$70-60=10$	$150/10 = 15$
80	910	$910-780=130$	$80-70=10$	$130/10 = 13$
90	1,020	$1020-910=110$	$90-80=10$	$110/10 = 11$
100	1,100	$1100-1020=80$	$100-90=10$	$80/10 = 8$
110	1,150	$1150-1100=50$	$110-100=10$	$50/10 = 5$
120	1,170	$1170-1150=20$	$120-110=10$	$20/10 = 2$
130	1,150	$1150-1170=-20$	$130-120=10$	$-20/10 = -2$
140	1,100	$1100-1150=-50$	$140-130=10$	$-50/10 = -5$
150	1,020	$1020-1100=-80$	$150-140=10$	$-80/10 = -8$
160	910	$910-1020=-110$	$160-150=10$	$-110/10 = -11$
170	780	$780-910=-130$	$170-160=10$	$-130/10 = -13$

Labor increases in groups of 10 workers  
 $\Delta L = 10$

Hiring these 10 workers (from 50 to 60) increase TP by 160 units

$$MP = \frac{\Delta TP}{\Delta L}$$

Use formula to calculate MP

The MP of each one of these 10 workers is 16 units

The MP of each one of these 10 workers is 8 units

The MP of each one of these 10 workers is -5 units



# Measures of Labor Productivity