

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 |

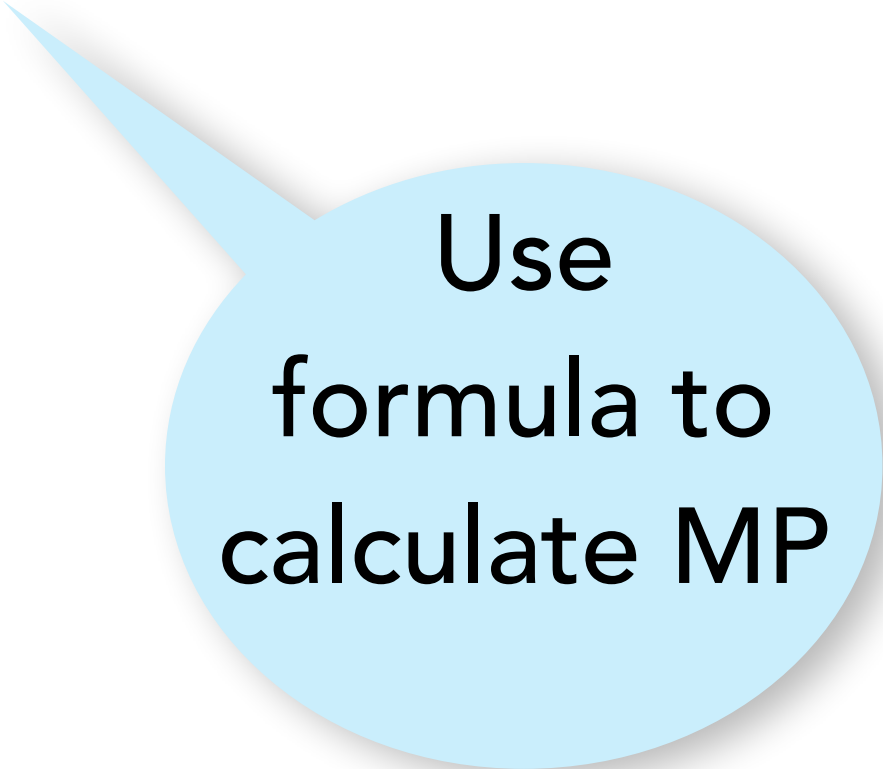
| |
|-------|
| Labor |
| 0 |
| 10 |
| 20 |
| 30 |
| 40 |
| 50 |
| 60 |
| 70 |
| 80 |
| 90 |
| 100 |
| 110 |
| 120 |
| 130 |
| 140 |
| 150 |
| 160 |
| 170 |

Leave Blank!

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

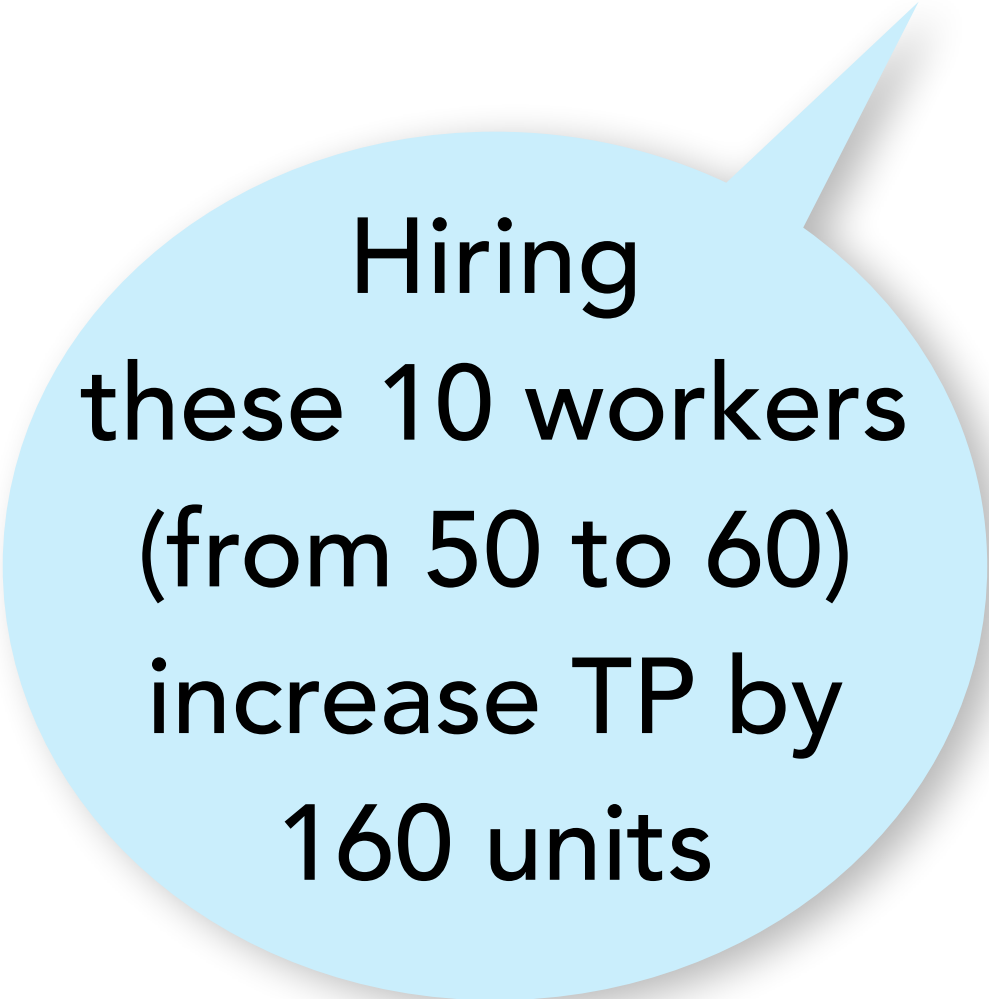




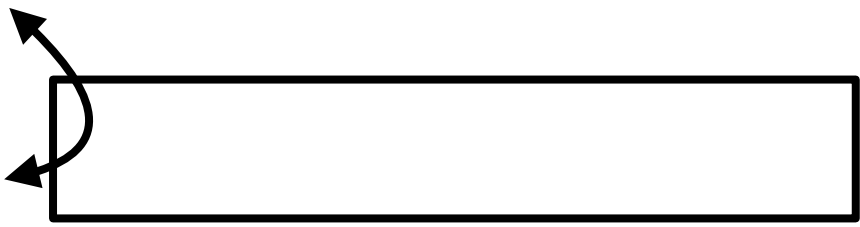


Use
formula to
calculate MP

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

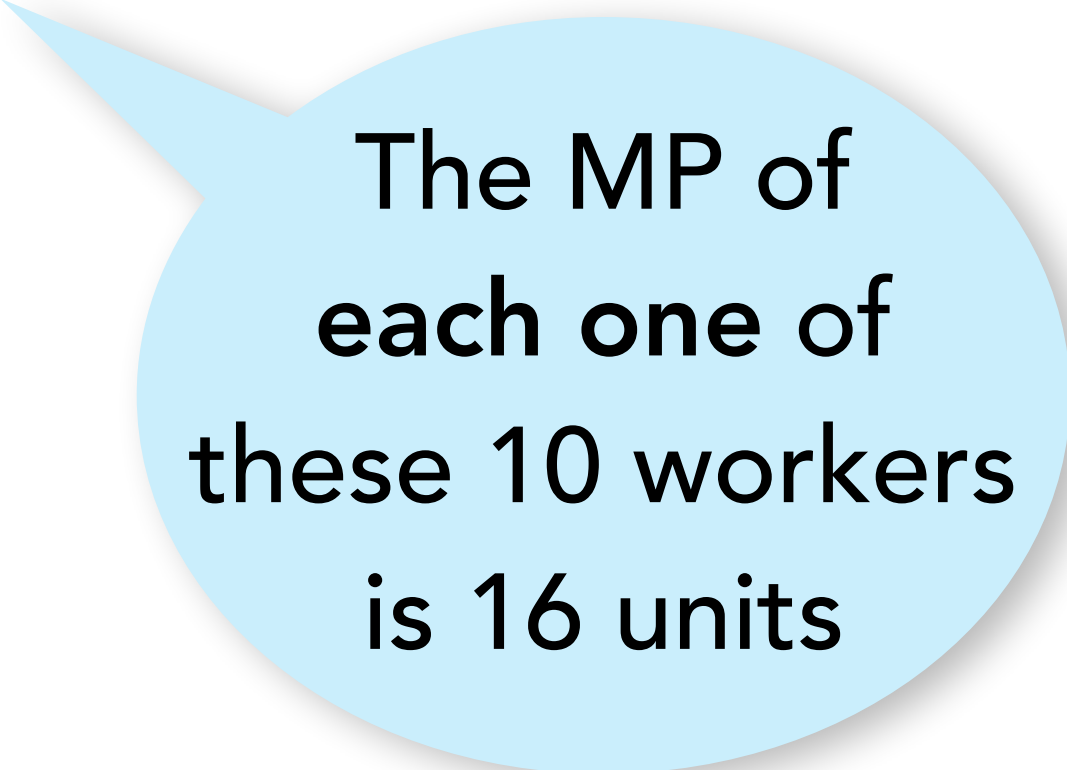


Hiring
these 10 workers
(from 50 to 60)
increase TP by
160 units









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

| Labor | TP | Change in TP | Change in L | Marginal Product |
|-------|-------|-----------------|--------------|------------------|
| 0 | 0 | ΔTP | ΔL | 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 Average/Marginal Rule