

resource A and B (labor and capital).

$P_x = \$50$ .

Qa MPa Qb MPb

1	12	1	20
2	11	2	18
3	10	3	16
4	9	4	14
5	8	5	12
6	6	6	10
7	5	7	8
8	3	8	6

Determine the following: At what proportion of resources firm maximizes profit if  $PA = \$250$  and  $PB = \$400$ ., and what is the size of the profits.

**Solution:**

We can find maximized profit from the formula:

$$TP = TR - TC = P_a \cdot q - (PA + PB) = \max$$

Value of marginal products of labor and capital should be equal to their wages and rental rate respectively, so:

$$P_x \cdot MP_a = PA, 50 \cdot MP_a = 250, MP_a = 5,$$

$$P_x \cdot MP_b = PB, 50 \cdot MP_b = 400, MP_b = 8, \text{ so we see from the table, that } q = 7$$

Now we can calculate maximizing profit:

$$TP = 50 \cdot 7 - (250 + 400) = -300 \text{ thousand dollars.}$$

So, there is a loss, that is minimized.