

Answer on Question #42370, Economics, Microeconomics

$B = \$30$ a day.

$PK = \$5$, $PL = \$1$ a day.

$Q = K * L$, $Q = 45$ units of output.

a) $B = PK * K + PL * L$

$$5K + L = 30$$

The slope of the isocost line is $k = 1/5$

b) Find the various amounts of labour (L) necessary to produce the output level of 45 units, given, $K=1$, $K=2$, $K=3$, $K=4$, $K=5$, $K=6$, and draw the resulting isoquant in the same diagram as in part (a).

c) What is the cost minimising input combination that the firm should choose?

Briefly explain the condition for this optimum.

$$B = PK * K + PL * L$$

$$5K + L = 30$$

$$K * L = 45$$

$$L = 30 - 5K$$

$$K * (30 - 5K) = 45$$

$$5K^2 - 30K + 45 = 0$$

$$K^2 - 6K + 9 = 0$$

$$(K - 3)^2 = 0$$

$$K = 3 \text{ units}$$

$$L = 15 \text{ units}$$

d) If production process is using 6 units of capital it should use $45/6 = 7.5$ units of labor to minimize costs.

<http://www.assignmentexpert.com/>