Isoquants

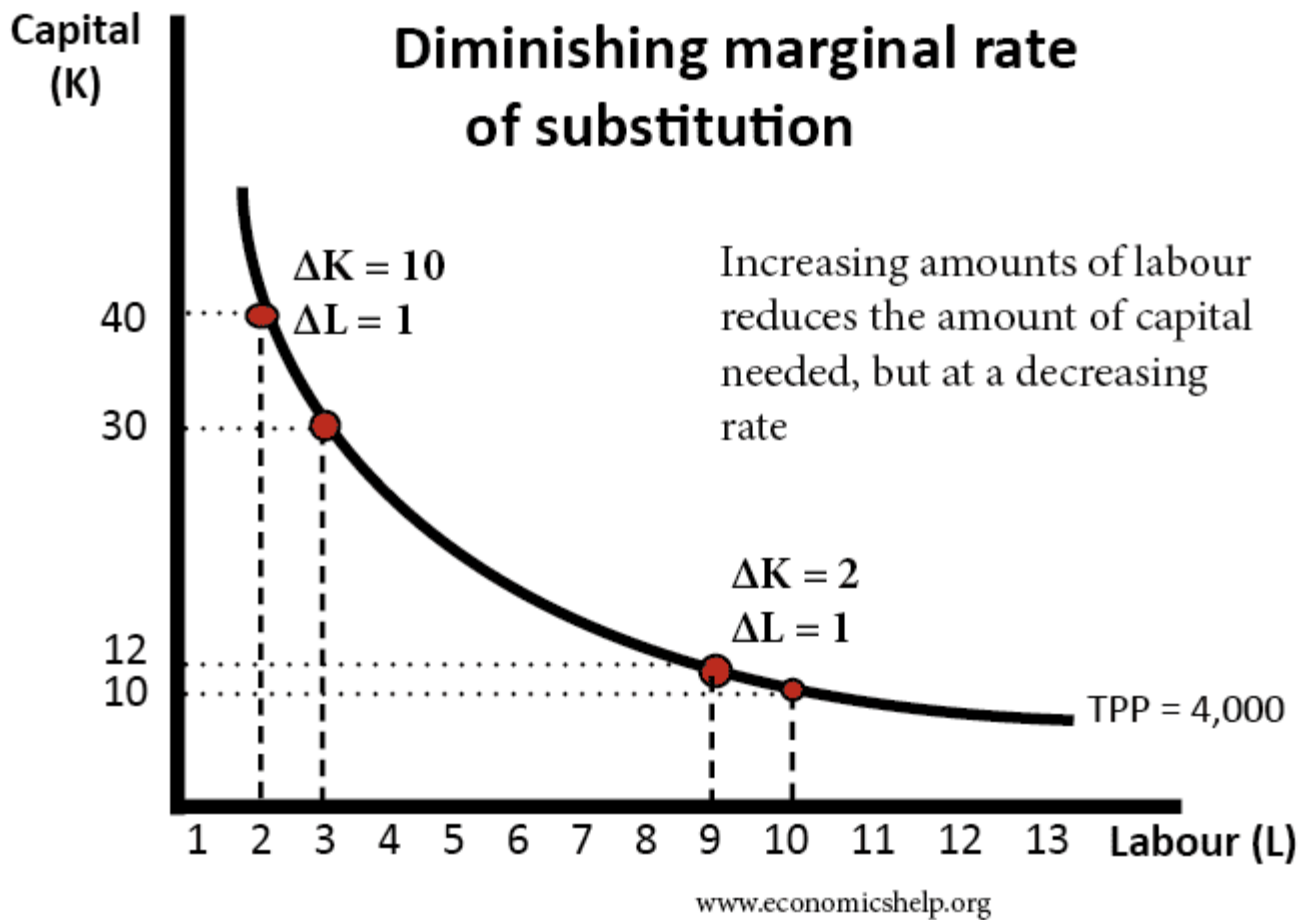## Marginal rate of factor substitution

$$MRS = \frac{\Delta K}{\Delta L}$$

The marginal rate of substitution is the amount of one factor (e.g. K) that can be replaced by one factor (e.g. L). If 2 units of capital could be replaced with one-factor labour, the MRS would be 2

$$MRS = \frac{\Delta K}{\Delta L} = \frac{2}{1} = 2$$

Diminishing marginal rate of substitution

Diminishing marginal rate of substitution

Capital (K)

ΔK = 10
ΔL = 1

Increasing amounts of labour reduces the amount of capital needed, but at a decreasing rate

ΔK = 2
ΔL = 1

TPP = 4,000

1 2 3 4 5 6 7 8 9 10 11 12 13 Labour (L)

www.economicshelp.org

If the firm employs 2 L and 40 K. Then employing one extra worker can enable it to save 10K. This is quite an efficient saving. The firm only has to pay one extra worker but can save the cost of 40.