


Labor demand practice correction

Q.1.

Labor and capital inputs are perfect substitutes.

Slope of isoquant = $-\frac{1}{3}$

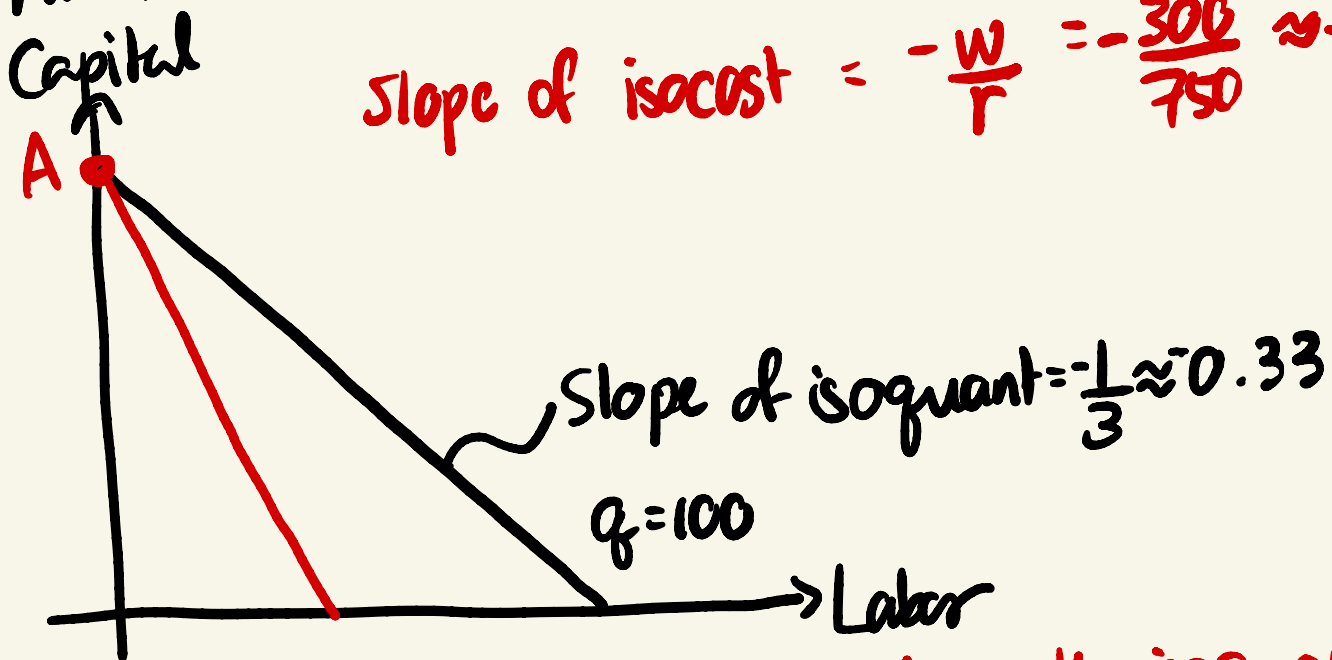
1 machine to do the work of 3 workers.

price of capital \$750 per machine per week

price of worker \$300 per worker per week

What combination of inputs will the firm use?

Slope of isocost = $-\frac{w}{r} = -\frac{300}{750} \approx -0.4$



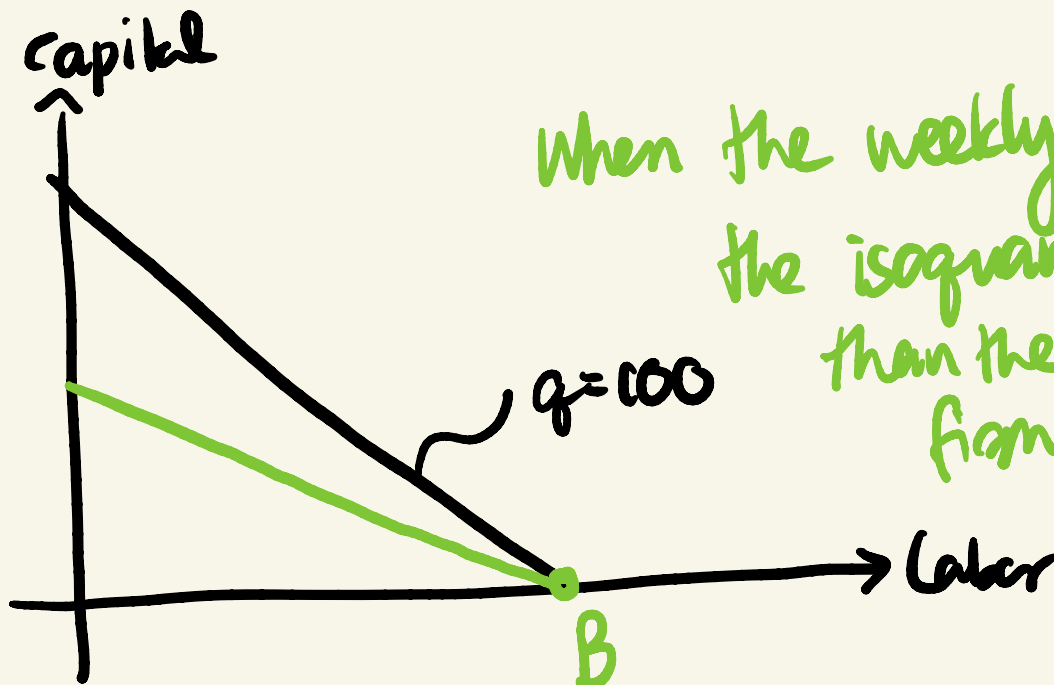
The isocost curve is steeper than the isoquant, the firm only hire capital at point A.

What combination of inputs will the firm use if the weekly salary of each worker is \$225?

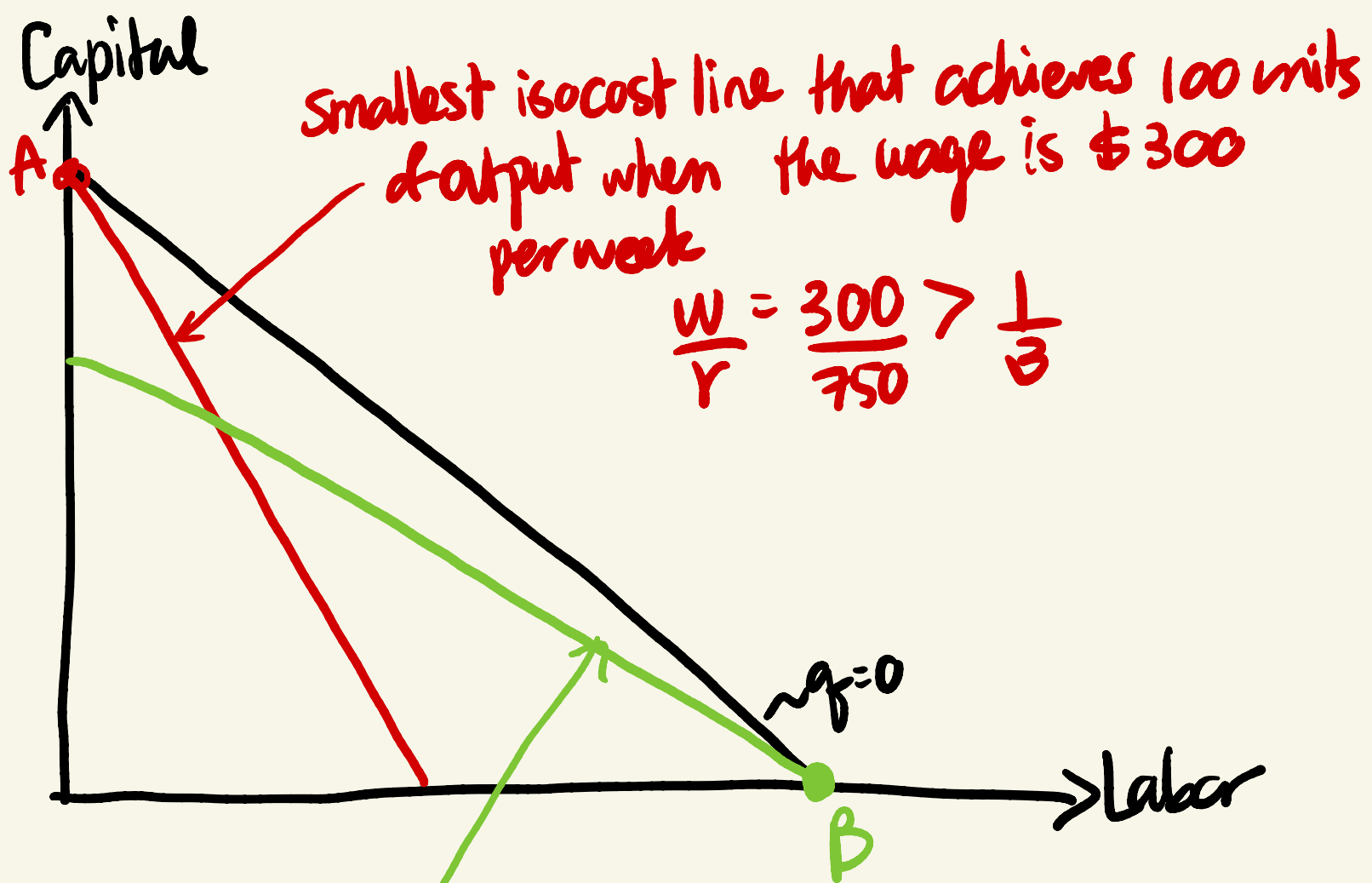
$$\text{Slope of isocost} = -\frac{w}{r} = -\frac{225}{750} = -0.3$$

$$\text{Slope of isoquant} = -\frac{1}{3} = -0.33$$

capital



When the weekly wage is \$225 the isoquant is steeper than the isocost and the firm hires only labor at point B.



Smallest isocost line that achieves 100 units of output when the wage is \$225 per week.

$$\frac{w}{r} = \frac{225}{750} < \frac{1}{3}$$