

Conference 1 Micro Theory 250D2

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material is not 100% my ideas
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- ① Solve Problems 35 min
- ② Mini office hours for last 15 min

Question 1: Profit maximization

- Given a Cobb Douglas production function with two inputs $f(x_1, x_2) = Ax_1^{\frac{1}{3}}x_2^{\frac{1}{3}}$ where $A = 1$, $w_1 = 1$, $w_2 = 2$, and $p = 3$.
- State the firms problem
- Solve for optimality conditions
- Solve for optimal profit

Question 2: Returns to Scale

Show the returns to scale for (mathmatically prove it):

① $F(K, L) = K^2 L^2$

② $F(K, L) = K^{\frac{1}{3}} L^{\frac{2}{3}}$

③ $F(K, L) = K^{\frac{1}{4}} L^{\frac{1}{4}}$

④ $F(K, L) = \sqrt{\min\{K, L\}}$

