

2.3 — Cost Minimization - Practice Problems

ECON 306 - Spring 2023

Your firm can use labor l and capital k to produce output according to the production function:

$$q = 4lk$$

The marginal products are:

$$MP_l = 4k$$

$$MP_k = 4l$$

Suppose you need to produce 144 units, the price of labor is \$10, and the price of capital is \$40.

1. **What is the least-cost combination of labor and capital that produces 144 units of output?**
2. **How much does this combination cost?**
3. **Does this technology experience constant returns, increasing returns, or decreasing returns to scale?**