4.1 — Modeling Firms With Market Power — Practice Problems

ECON 306 — Fall 2021

Bob's Bats produces baseball bats, and has the following costs:

$$C(q) = 5q^2 + 720$$
$$MC(q) = 10q$$

and faces a market demand for bats:

$$q = 120 - 0.4p$$

where quantity is measured in thousands of bats

1. **Write Bob's Marginal Revenue function.**

2. **Find the profit-maximizing quantity and price.**

3. **How much total profit does Bob's Bats earn? Should Bob stay or exit this industry in the long run?**

4. **At what price would Bob's Bats break even?**

5. **How much of Bob's price is markup (over marginal cost)?**

6. **Calculate the price elasticity of demand at Bob's profit-maximizing price.**