4.1 — Modeling Firms With Market Power — Practice Problems

ECON 306 — Spring 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.