Environmental Economics

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EPFL ENAC LEUrE

ENV-471

Master semester 2 or 4

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Exercises

FIXED COSTS

Optimal production with fixed cost

A producer in perfect competition produces a good for a total cost equal to: $TC = 8 + \frac{1}{2}q^2$, q being the quantity produced.

1) Write the equation defining the profit for this producer as a function of the level of production and the selling price of the product

2) Determine the level of production that maximizes this producer's profit as a function of price.

3) Calculate the production level that maximizes profit and the maximum profit when the selling price p = 10

4) Determine the selling price below which the producer can no longer make a positive profit

5) Determine the selling price below which the producer, who has already built up his production capacity, ceases to produce