ECO3011 Intermediate Microeconomic Theory: Tutorial Week 11

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Exercise 1 from Ch23Q4 p.429

A firm has a supply function given by $S(p) = 4p$. Its fixed costs are 100. If the price changes from 10 to 20, what is the change in its profits?

Exercise 2 from Ch23Q5 p.429

If the long-run cost function is $c(y) = y^2 + 1$, what is the long-run supply curve of the firm?

Exercise 3 from Ch24Q7 p.456

A New York City cab operator appears to be making positive profits in the long run after carefully accounting for the operating and labor costs. Does this violate the competitive model? Why or why not?

Exercise 4 from Ch25Q1 p.476

The market demand curve for heroin is said to be highly inelastic. Heroin supply is also said to be monopolized by the Mafia, which we assume to be interested in maximizing profits. Are these two statements consistent?

Exercise 5 from Ch25Q3 p.476

The monopolist faces a demand curve given by $D(p) = 10p^{-3}$. Its cost function is $c(y) = 2y$. What is its optimal level of output and price?

Exercise 6 from Ch25Q4 p.477

If $D(p) = 100/p$ and $c(y) = y^2$, what is the optimal level of output of the monopolist? (Be careful)

Exercise 7 from Ch25Q5 p.477

A monopolist with constant marginal cost is producing where $|\epsilon| = 3$. The government imposes a quantity tax of \$6 per unit of output. If the demand curve facing the monopolist is linear, how much does the price rise?

Exercise 8 from Ch25Q6 p.477

What is the answer to the above question if the demand curve facing the monopolist has constant elasticity?

Exercise 9 from Ch25Q7 p.477

If the demand curve facing the monopolist has a constant elasticity of 2, then what will be the monopolist's markup on marginal cost?

Exercise 10 from Ch25Q8 p.477

The government is considering subsidizing the marginal costs of the monopolist described in the question above. What level of subsidy should the government choose if it wants the monopolist to produce the socially optimal amount of output?

Exercise 11 from Ch25Q10 p.477

True or false? Imposing a quantity tax on a monopolist will always cause the market price to increase by the amount of the tax.

Exercise 12 from Ch26Q3 p.502

Suppose that the amusement park owner can practice perfect first-degree price discrimination by charging a different price for each ride. Assume that all rides have zero marginal cost and all consumers have the same tastes. Will the monopolist do better charging for rides and setting a zero price for admission, or better by charging for admission and setting a zero price for rides?

Exercise 13 from Ch28Q2 p.538

Consider a cartel in which each firm has identical and constant marginal costs. If the cartel maximizes total industry profits, what does this imply about the division of output between the firms?

Exercise 14 from Ch28Q4 p.538

Suppose there are n identical firms in a Cournot equilibrium. Show that the absolute value of the elasticity of the market demand curve must be greater than $1/n$. (Hint: in the case of a monopolist, $n = 1$, and this simply says that a monopolist operates at an elastic part of the demand curve. Apply the logic that we used to establish that fact to this problem.)

The End