ECON 202-Principles of Microeconomics Dr. Craig Walker
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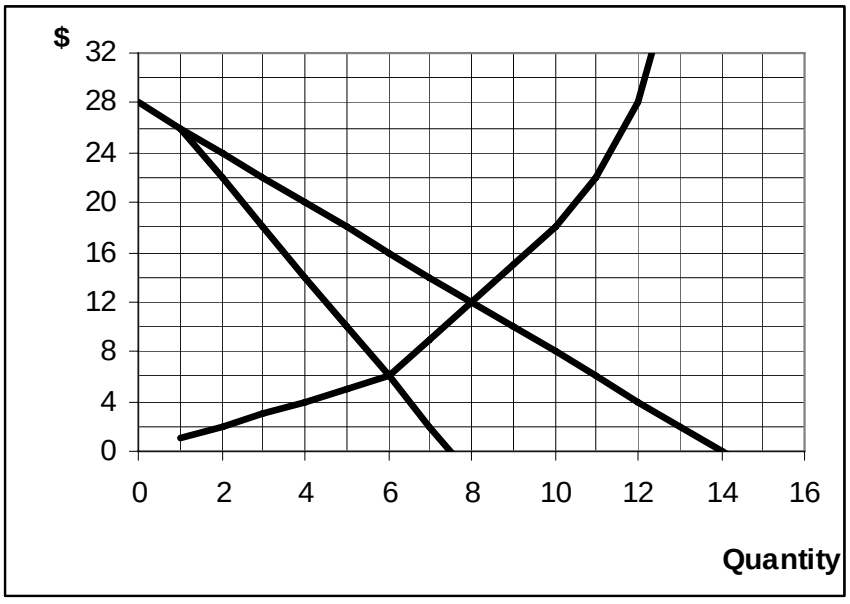
Name:_____

The table below gives the demand and marginal cost for a monopolist. Complete the table and use the information to answer the following questions.

Quantity Demanded	Price	Total Revenue	Marginal Revenue	Marginal Cost
0	28	0		
1	26	26	26	1
2	24	48	22	2
3	22	66	18	3
4	20	80	14	4
5	18	90	10	5
6	16	96	6	6
7	14	98	2	9
8	12	96	-2	12
9	10	90	-6	15
10	8	80	-10	18
11	6	66	-14	22
12	4	48	-18	28
13	2	26	-22	40
14	0	0	-26	50

1. **Find total revenue and marginal revenue.**

2. **Plot the demand curve, the marginal revenue curve and the marginal cost curve on the graph below.**



3. **Find the profit-maximizing price and quantity assuming the monopolist does not practice price discrimination. (The monopolist's profit-maximizing quantity is the quantity that equates MR and MC. To find price, go to the demand curve.)**

   Q=6, P=16

4. **The firm above is broken up into several smaller competing firms. Assume there is no change in cost. The graph above would now be the market demand and the marginal cost curve would be the supply curve. The market is now competitive. Find the market price and quantity. In a competitive market, the equilibrium market price equals marginal revenue and each firm is a pricetaker. As a result, P=MR=MC.**

   Q=8, P=12

5. **Compare the monopoly outcome to the competitive outcome:**

   a. **Price** $P^M > P^C$

   b. **Quantity** $Q^M < Q^C$

   c. **Find the deadweight loss due to monopoly. The deadweight loss is the lost surplus the occurs because the monopoly quantity and price differ from the competitive quantity and price.**

$$\text{DWL} = \frac{1}{2}\begin{pmatrix}\text{Reduction in}\\ \text{quantity due}\\ \text{to monopoly}\end{pmatrix}\begin{pmatrix}\text{Difference between}\\ \text{monopoly price}\\ \text{and marginal cost}\end{pmatrix} = \frac{1}{2}\left(Q^C - Q^M\right)\left(P^M - MC\right) = \frac{1}{2}(8-6)(16-6) = 10$$

6. **Assume this firm is able to practice perfect price discrimination. How many units will the firm sell and what price will it charge for the last unit? If a firm is able to practice perfect price discrimination, the demand curve becomes the marginal revenue curve. The firm is still maximizing profit, so it will produce the quantity where MR=MC.**

   P_{Disc}=12, Q_{Disc}=8