

Answer the following questions, showing all of your work.

1. Your firm decreases its price from \$22 to \$20, and as a result, sales increase from 45 units a month to 53 units a month. Find the elasticity of demand.

$$\frac{53 - 45}{45} (100\%) = 17.78$$

$$\frac{20 - 22}{22} (100\%) = -9.09$$

$$= \boxed{1.96}$$

2. Are customers in (1) elastic or inelastic in their demand? In words, what does this mean?

Customers in (1) are elastic meaning they are price sensitive meaning that as price changes the amount of units they consume changes

3. What is the impact from (1) on total revenue? Illustrate how you know this.

$$TR = P \times Q$$

$$P \downarrow 9.09 \quad Q \uparrow 17.78$$

$$\boxed{TR \uparrow}$$

4. Your firm increases its price by 12% and as a result, sales fall from 80/week to 73/week. Find the elasticity of demand.

$$\frac{73 - 80}{80} (100\%) = -8.75$$

$$\frac{12\%}{12} = 1$$

$$= |-0.73|$$

5. Are customers in (4) elastic or inelastic in their demand? In words, what does this mean?

Consumers in (4) are inelastic meaning they are less price sensitive, they won't change the amount of units they consume when price changes

6. What is the impact in total revenue associated with the change in (4)? Illustrate how you know this.

$$TR = P \times Q$$

$$P \uparrow 12\% \quad Q \downarrow 8.75\%$$

$$\text{Total revenue decreases } \boxed{TR \downarrow}$$

7. A report states that the elasticity of demand for gasoline is .68 and the government wants to increase the price by 5% using a tax paid by consumers at the pump. How will quantity demanded change as a result? (HINT: you have to plug in what you know and solve for the numerator)

Qd \rightarrow decreases by
13.6%

$$\frac{-13.6\%}{5\%} = -.681$$

Q \downarrow 13.6% P \uparrow 5%

8. When imposing a tax (with the goal of generating government revenue), do you want to apply the tax to a good that is highly elastic or one that is highly inelastic? Explain your logic.

Applying the tax to a highly inelastic good would generate government revenue because consumers are less price sensitive and therefore won't decrease the amount of units they consume.

9. Assume that your firm wants to increase price and generate more revenue. For this to work, does the firm need consumers who are elastic or who are inelastic? Explain fully.

The firm would require consumers who are more inelastic because they will be less price sensitive with an increase of price, causing them to consume the same amount of units, therefore total government revenue.

10. Assume that your firm wants to decrease price and generate more revenue. For this to work, does the firm need consumers who are elastic or who are inelastic? Explain fully.

The firm would require consumers who are generally more elastic because they will be more price sensitive, causing them to buy more units at a decreased price.

11. The Belleaire area of Richmond, VA imposes a meals tax of 8% on food consumed at restaurants in that area. After 6 months, the tax revenue is not as big as anticipated. What might explain this?

Consumers at Belleaire are price sensitive and therefore stopped going to the restaurants when prices were raised.