MARKETS AND MARKET EQUILIBRIUM

1. Graph 1 shows the 2004 market supply and market demand curves for tomatoes in the United States.

   a. On Graph 1, label the market supply curve as $S_T$ and the market demand curve as $D_T$. Clearly label the axes of the graph. Clearly label the initial market equilibrium price ($P_1$) and quantity ($Q_1$) of tomatoes.

   b. The hurricanes in September – October, 2004 devastated much of the tomato crop in Florida. On Graph 1, show the effect that this has had on the current tomato market. (show any new supply and/or demand curves with a dashed line or different color). On Graph 1, label the new equilibrium price ($P_2$) and quantity ($Q_2$).

   c. Explain why you changed the graph as you did and why the equilibrium price and quantity changed, if it did.

   d. What affect would this likely have on fast food chains (e.g., Wendy’s, MacDonald’s) across the county?
2. Graph 1 illustrates the January 2008 market supply and market demand curves for fertilizer for food production by producers and farmers in the United States. (15)

Graph 1

a. On Graph 1, label the market supply curve as \( S_T \) and the market demand curve as \( D_T \). Clearly label the axes of the graph. Clearly label the initial market equilibrium price \( (P_1) \) and quantity \( (Q_1) \) of fertilizer. (5)

b. A recent (Tuesday, May 27, 2008) article in the Wall Street Journal states that since January 2008, both the costs of producing fertilizer and the amount of fertilizer wanted by farmers to increase crop production have both increased.

On Graph 1, show the effect of these two (2) things on the market for fertilizer (show any new supply and/or demand curves with a dashed line or different color).

On Graph 1, label the new equilibrium price \( (P_2) \) and quantity \( (Q_2) \).

**Explain why** you changed the graph as you did and **how** the equilibrium price and quantity changed, if it did. (8)
3. Graph 1 illustrates the **May 2011** market supply and market demand curves for high-end guitars (yes, guitars – the musical instruments) in New Castle County, Delaware. Currently, there are 6 - 8 music stores that provide high-end guitars. (42)

![Graph 1](image)

**a.** On Graph 1, label the market supply curve as S₁ and the market demand curve as D₁. Clearly label the axes of the graph. Clearly label the initial market equilibrium price (P₁) and quantity (Q₁) of guitars. (2)

**b.** A recent article in the News Journal discusses the two (2) factors that may affect the guitar market in New Castle County this summer: 1) “Guitar Center”, a national guitar chain, will open a store and 2) in this tough economy, families are spending less on optional things, like guitars and guitar lessons.

On Graph 1, show the effect of these **two (2)** things on the market for guitars (show any new supply and/or demand curves with a dashed line or different color). (2)

On Graph 1, label the **new** equilibrium price (P₂) and quantity (Q₂). (2)

**c. Explain why** you changed the graph as you did and **how** the equilibrium price and quantity changed, if either did. (4)
4. A profit maximizing firm is a monopolist is selling Good Y.

a. In Graph 1, draw the market demand curve for Good Y for the firm. Explain why it looks different than the market demand curve for a competitive firm.

b. Add a “Nike-swooped” shape Marginal Cost curve to the graph. Add any additional lines needed to determine the profit maximizing amount of output for the firm. Identify that amount.

c. Identify the price the firm will receive for each unit of Good Y.

d. Add a “normal shaped” ATC curve to the graph and shade in the economic profit to the monopolist.

Graph 1
5. Graph 1 illustrates the 1976 market supply and market demand curves for milk (for drinking) in the United States. (20)

Graph 1

- a. On Graph 1, label the market supply curve as $S_M$ and the market demand curve as $D_M$. Clearly label the axes of the graph. Clearly label the initial market equilibrium price ($P_1$) and quantity ($Q_1$) of milk.

- b. A recent Wall Street Journal (see attached) indicates that in 2012 (30 years later) people drink much less milk in favor of water and energy drinks. Also, the costs of producing milk have increased due to higher grain prices (used to feed cows).

On Graph 1, show the effect of these two (2) things on the market for milk (show any new supply and/or demand curves with a dashed line or different color).

On Graph 1, label the new equilibrium price ($P_2$) and quantity ($Q_2$).

- c. **Explain why** you changed the graph as you did and **how** the equilibrium price and quantity changed, if either did.

- d. **Explain** the impact of these changes on a dairy (milk-producing) farmer in Vermont.