CONCEPT: PERCENTAGE CHANGE AND PRICE ELASTICITY OF DEMAND

● Using percentage change in calculations allows us to make comparisons without worrying about units (i.e. dollars, cents).

$$Percentage\ Change = \frac{Change\ (\Delta)\ in\ X}{Original\ value\ of\ X} = \frac{New\ Value - Original\ Value}{Original\ Value}$$

● **Elasticity** is a _____ that relates changes between two variables.

     ☐ The most commonly used variables when calculating elasticities: _____

Price Elasticity of Demand: How does quantity demanded respond to a change in price?

$$Price\ Elasticity\ of\ Demand = \frac{Percentage\ Change\ (\%\Delta)\ in\ Quantity\ Demanded}{Percentage\ Change\ (\%\Delta)\ in\ Price} = \frac{\%\Delta Q_d}{\%\Delta P}$$

EXAMPLE: When the price of dog bills rises by 20 percent, you buy 10 percent fewer dog bills. What is your price elasticity of demand for dog bills?

We use the <u>absolute value</u> of our answer because the price elasticity of demand equation always gives a negative answer.

     ☐ Demand is **elastic** when _____

     ☐ Demand is **inelastic** when _____

     ☐ Demand is **unit-elastic** when _____

EXAMPLE: A pizza company's lunch special currently costs $5. At this price, the weekly demand is 2,000 lunch specials. If they raise their price to $6, the weekly demand will drop to 1,400 lunch specials. What is the price elasticity of demand?

EXAMPLE: A pizza company's lunch special currently costs $6. At this price, the weekly demand is 1,400 lunch specials. If they lower their price to $5, the weekly demand will increase to 2,000 lunch specials. What is the price elasticity of demand?