## Economics

1. Whats the relationship between cost and productivity? In economics, cost and productivity are highly related to each other. Cost can be defined as" the burden sustained in order to perform a certain activity, to carry out certain production, or to achieve certain goals" (Piana 2003). For a business organization, costs can be categorized as actual, discretionary, and the economic concept of opportunity cost. On the other hand, productivity typically denotes how well companies convert input resources into specific outputs. Productivity often comprises three components namely, increased production volume, improved services, and reduced costs. Thus, for each of the input employed in order to produce a good, the resource should be able to increase the volume of production at the lowest possible cost. Logically, the lower the cost of producing the product the higher the productivity of the resource.

Cost and productivity thus have an inverse relationship-when cost of manufacturing a unit of output is high, the productivity is low and conversely, the lower the production cost per unit the higher the productivity. In order to illustrate this point, take two workers who both assemble stuff toys for eight hours. Each of them is paid $\$ 10$ an hour and the eight hour period will be paid $\$ 80$. For simplicity's sake, let us assume that the first worker can produce 8 stuffed toys within the working hours while the second can only produce 4 . The first worker's labor cost of producing a stuffed toy is $\$ 10$ while the second is $\$ 20$. Being able to produce at a lower cost, the first worker is more productive.
2. What is the law of diminishing marginal productivity? Give an example from your workplace of the law of diminishing marginal productivity? Might diminishing marginal productivity impact the costs?

The law of diminishing marginal productivity states that the " when the technology of production and some of the inputs are held constant and the quantity of a variable input increases continually, the marginal productivity of the variable input will eventually decline." It should be noted that the law of diminishing marginal productivity assumes that only on input is increased while all others are held constant.

This economic law can be proven by real world examples in the workplace where employees are put to work on certain projects with a constant level of resource. In a factory where people are employed to manufacture candles. Suppose that each day, 100 kg of waxes should be melted and turned into aromatherapy candles. Assigning one worker will undoubtedly contribute the highest return considering the cost of labor which is needed to transform the input into output. Adding a second employee will add more output, yet will not be as productive as the first since the other input are held constant. When more and more workers are employed in the factory, there will come a point where the workplace becomes so crowded that adding more input will just overburden the company with labor cost yet will not significantly affect the level of production.
3. Whats the income elasticity of demand, cross price elasticity, and price elasticity? Please use some examples from your work or real life. Income elasticity of demand measures the responsiveness of the demand of a good to the changes in income of the people purchasing the good. A good example to illustrate income elasticity of demand is the current recession in the economy of the United States which push down the income of consumers. Income elasticity for instance will measure how the demand for durables is affected as income declines. As normal goods, the income
elasticity of demand is positive because people tend to delay purchase of durables as income declines.

Cross price elasticity on the other hand, measures the responsiveness of demand of a good in response to the increase in the price of another good. In general, if two products are complements, the increase in price will bring about lower demand for the complement. If two products are substitutes, increase in price of the other product will improve demand for the other. In the real world for example, the increase in price of onions will increase demand for chives.

The price elasticity of demand measures the change in quantity demanded of a product in response to a change in price level. The demand for bread is relatively inelastic because the change in prices will not significantly affect the level of demand.

References
Piana, V. 2003, Cost: A Key Concept in Economics, Retrieved 07 August 2008, from http://www. economicswebinstitute. org/glossary/costs. htm

