

Submit your answers via email to [econprof@marketworksasia.com](mailto:econprof@marketworksasia.com) before 8AM of Tuesday, 30 January 2018.

Please use for the email **SUBJECT: Managerial Econ Answers [your last name]**

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1. A discount store selling speakers noticed that, during the previous year, their 'Anton' speakers had sold at a steady average of 200 a month throughout the year. However, during June and September, sales had dropped to only 120 units per month. These slack periods seemed to coincide with the months when special offers were extended on their 'Gless' speakers which brought their prices down from P2,000 to P1,600 per pair.
    - a. What is the cross elasticity of demand between Anton and Gless speakers?
    - b. Does this result indicate any clear relationship between the two types of speakers?
    - c. Identify the relationship between these two products, if any.
    - d. If the retailer wished to promote Anton speakers, what sales should you predict for that type of speaker if the prices of Gless speakers were raised from their usual P2,000 to P2,200?
  2. Suppose the Mayor of Mandaue City asked you to advise him concerning the proper fare that should be charged by the new Bus Rapid Transit system,
    - a. What information will you advise him to get?
    - b. In what way might information concerning the price elasticity of demand be useful?
    - c. What is your advice on how he will make the decision? Be specific as to your recommendation on the analysis.
  3. Suppose you are a trustee of a major university. At a meeting of the board of trustees, one university official argues that the demand for places in the university is completely inelastic. As evidence, he cites the fact that although the university has doubled its tuition fees in the last decade, there has been no appreciable decrease in the number of students enrolled.
    - a. Do you agree? Why or why not? What will the best thing to do, in this situation?
    - b. How will you go about making that decision?
  4. Consider public policy aimed at smoking.
    - a. Studies indicate that the price elasticity of demand for cigarettes is about 0.4. If a pack of cigarettes currently costs P100 and the government wants to reduce smoking by 20 percent, by how much should it increase the price?
    - b. If the government permanently increases the price of cigarettes, will the policy have a larger effect on smoking one year from now or five years from now?
    - c. Studies also find that teenagers have a higher price elasticity than do adults. Why might this be true?
  5. Moonlight company needs a machine for its manufacturing process. The cost of the new machine is P80,700. The expected useful life of the machine is 8 years. At the end of 8-year period, the machine would have no salvage value. After installation, the machine would increase cash inflows by P30,000 per year. Moonlight is interested to know the net present value of the machine to accept or reject this investment. The minimum required rate of return of the company is 16% on all capital investments.

- a. Compute net present value of the machine.
- b. Is it acceptable to purchase the machine?

6. Fill in the blanks in the following table, assuming that labor is the variable input:

Number of Units of Labor	Total output (number of units)	Marginal Product of Labor	Average Product of Labor
3		Unknown	30
4		20	
5	130		
6		5	
7			19.5

- a. Does the production function exhibit diminishing marginal returns? If so, at what number of units of variable input do diminishing marginal returns begin to set in?
  - b. At which unit of labor does Stage I end and Stage II begin?
7. Deep Truth Publishing is considering whether to launch a new e-magazine. The annual rate of return on a similar risk project is 8%, the cash flows occur semi-annually (at the end of the 6th and 12th month), and the publishing company requires a payback period of 2 years. The finance department has calculated that the required rate of return for all projects that it will consider is 14%.

The costs of the project are:

Advertising on various billboards and cable television stations	PhP210,000
Hollow Truth's accounting department set up charges	50,000
Production costs and employee bonuses	250,000
Last years purchase price for the e-magazine's offices	470,000
Potential rental income from the offices if rented to a 3rd party	200,000

- a. Assume the semi-annual cash inflows are P150,000 and P200,000 in year 1, and P250,000 and P200,000 in year 2. Calculate the payback, NPV, IRR of the project. Based on each criterion, should you accept the project? Why?
8. Making dresses is a labor-intensive process. The output of a dressmaker is shown here, where Q denotes the number of dresses per week and L is the number of labor hours per week. The additional cost of hiring an extra hour of labor is about P350 per hour. The firm faces the fixed selling price P400.

L	Q
10	10
15	15
20	20
25	24
30	29
35	33
40	38
45	42

- a. How many hours of labor should the firm put in?
- b. Over the next two years, labor costs are expected to be unchanged, but dress prices are expected to increase to P420. What effect will this have on the firm's optimal output? Explain.
- c) Suppose instead that inflation is expected to increase the firm's labor cost by 10% and dress prices go up to P470. What effect would this have on the firm's decision of labor hours to put in?