

Homework 4:
 Creating Supply and Demand Curves
 Professor Schenk

Due: December 13, 2011

1. Presume a firm is manufacturing a good. Below is the firm's production.

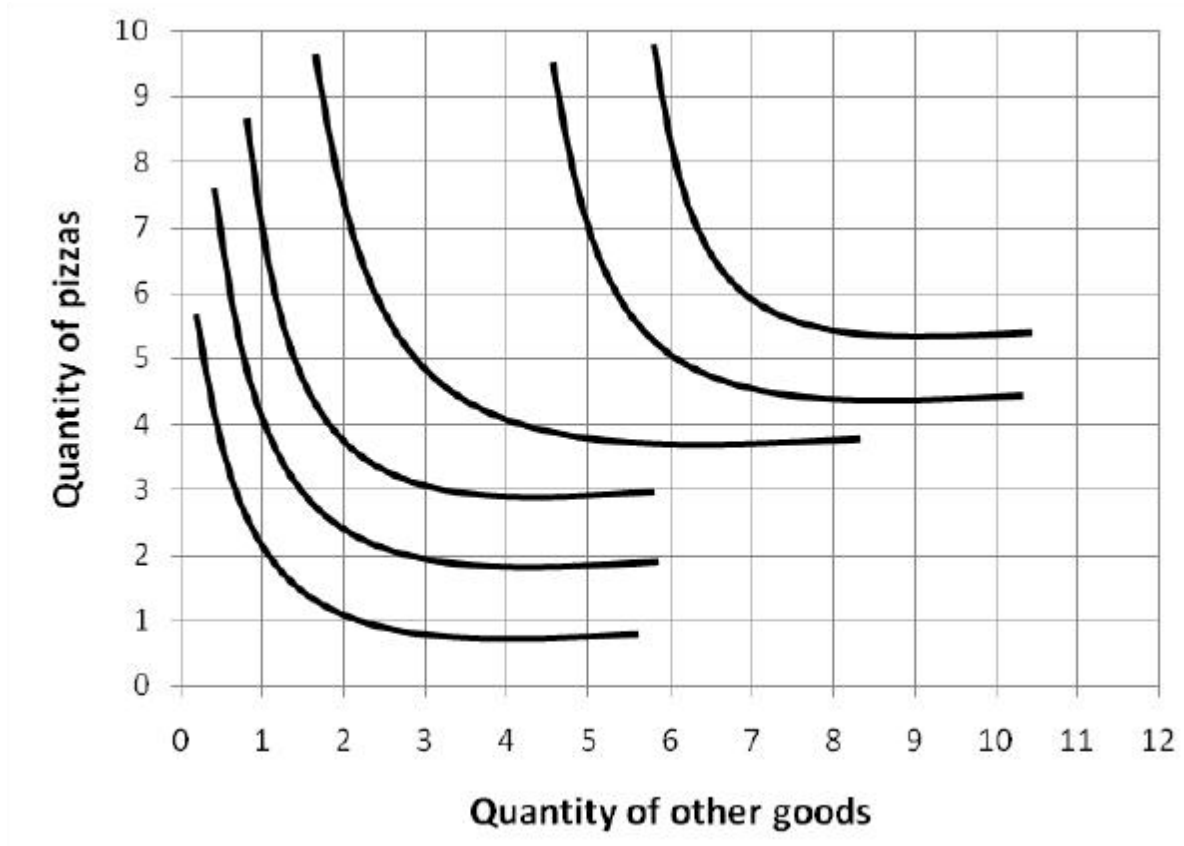
Quantity	Input (workers)	Average Product	Marginal Product
0	0		NA
100	5		
200	8		
300	9		
400	10		
500	12		
600	15		
700	21		
800	32		

- a. Calculate the Average Product for the Firm at the various levels of output.
 - b. Calculate the Marginal Product for the firm at the various levels of output.
 - c. Does the firm exhibit increasing, constant, or diminishing marginal product?
2. Use your answers from above to find the firm's costs. Each worker is paid \$200 for labor (e.g., multiply workers by \$200).

Quantity	Variable Cost	Fixed Cost	Total Cost	Marginal Cost	AVC	AFC	AC
0	\$	\$1,200		NA			
100	\$	\$1,200					
200	\$	\$1,200					
300	\$	\$1,200					
400	\$	\$1,200					
500	\$	\$1,200					
600	\$	\$1,200					
700	\$	\$1,200					
800	\$	\$1,200					

- a. Calculate Total Cost.
- b. Calculate Marginal Cost.
- c. Calculate Average Variable Cost, Average Fixed Cost, and Average Total Cost.
- d. Graph the firm's AVC, AFC, and AC.
- e. Label the areas (if any) that exhibit decreasing returns to scale. Label the areas (if any) that exhibit increasing returns to scale.

- f. What are the break-even and shut-down prices?
 - g. Graph the firm's supply curve.
3. Now consider trade-offs for consumers. Below is a graph of a consumer's indifference curves. Assume the consumer has a monthly budget of \$60 and the price of other goods are \$5.



- a. Draw the consumer's budget line when the price of pizzas are \$15.
- b. Draw the consumer's budget line when the price of pizzas are \$10.
- c. Draw the consumer's budget line when the price of pizzas are \$6.
- d. Using the points above, draw the consumer's demand curve.

You're done!