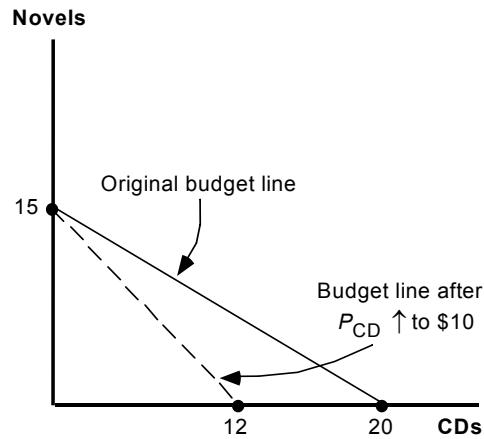
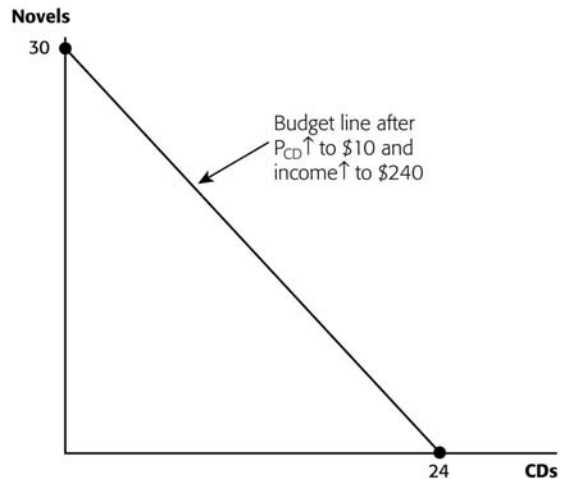


## Answer key to homework #5

1. a.



b.



2. *No, he is not maximizing utility.* For each dollar spent on novels, Parvez gets 5 units of utility; for each dollar's worth of CDs, only 4. He should spend less of his budget on CDs and more on novels. As he does so, the marginal utility of CDs will rise and the marginal utility of novels will fall, until the ratio of marginal utility to price is the same for both goods.

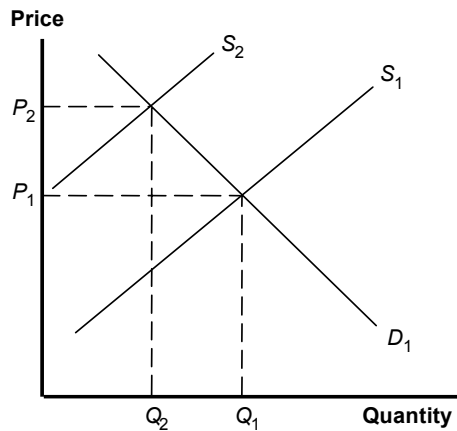
3. Anita's utility is maximized where

$$\frac{MU_{\text{pizza}}}{P_{\text{pizza}}} = \frac{MU_{\text{Pepsi}}}{P_{\text{Pepsi}}},$$

or, given the prices in the problem, she should consume slices and cans such that  $MU_{\text{pizza}} = 2MU_{\text{Pepsi}}$ . This will be satisfied at 8 cans of Pepsi (the eighth

can give her additional utility of 10) and 5 slices of pizza (the marginal utility of the fifth slice is 20).

6. a. 75000 bottles. This is  $1000 \times (100 - 25(\$1)) = 1000 \times 75$ .
  - b. 50000 bottles. This is  $1000 \times (100 - 25(\$2)) = 1000 \times 50$ .
  - c.  $Q_D = 10,000 - 2500P$
8. a. Since the price of inputs is a determinant of the supply curve, an increase in paper prices will shift the *firm's* supply curve to the left, increasing the equilibrium price for its books to  $P_2$  below:



- b. By the *substitution effect*, the increased price for Pulp Fiction's books will cause consumers to substitute other goods (perhaps the publications of other publishers) for Pulp's books, decreasing quantity demanded. Assuming Pulp's novels are normal goods for most consumers, the *income effect* acts to reinforce the substitution effect, decreasing quantity demanded. (If Pulp's novels are inferior goods, then the income effect will work against the substitution effect—tending to increase quantity demanded while the substitution effect decreases quantity demanded.)

