

Guidelines (but not the only answers) for Topic 5 Homework (#3, #9, pp.130-131)

3.

- a. Neither issue would pass with majority voting as in both cases, two voters of the three would vote against the each issue because they receive negative net benefits. This is not efficient because issue X has a positive total net benefit and should be funded.
- b. With logrolling, voters A and B can trade votes. A will vote for issue Y if B votes for issue X, but C will not vote for either project. Both issues will pass with two votes for and one against. This is not efficient because issue Y has a negative total net benefit.
- c. If side payments were allowed A could pay B to vote for issue X (A would not pay C because C would require a higher payment than B), and B could pay A or C to vote for issue Y. This would result in the same inefficient outcome as in b.
- d. If side payments were allowed A would have to pay B at least 1 to vote for issue X. A would only be willing to pay less than 6. B would have to pay A or C at least 3, but no more than 4 to entice him to vote for issue Y.

9.

- a. With the demand curve of $Q=100-10P$ and a perfectly elastic supply curve at $P=2$, the milk is sold at a price of \$2, and a quantity of 80 units is sold.
- b. The marginal revenue curve associated with the inverse demand curve $P=10-(1/10)Q$ is $MR=10-(1/5)Q$, while the marginal cost curve is $MC=2$. The cartel would ideally produce a quantity where $MR=MC$, or $10-(1/5)Q=2$, or $Q=40$. The price associated with a cartel quantity of 40 units is $P=10-(1/10)*40$, or $P=6$.
- c. The rent associated with the cartel is the product of the marginal profit per unit and the number of units produced. The marginal profit per unit of milk is \$4 ($=\6 price - $\$2$ marginal cost), while 40 units are produced. Thus, the rents equal \$160.
- d. The most the cartel would be willing to contribute to politicians is the full economic rent of \$160. The cartel situation, the quantity of milk produced is too low from society's point of view. The deadweight loss triangle is computed using the difference between the cartel output and competitive output as the "base" of the triangle, and the difference between the cartel price and competitive price as the "height." Thus, the triangle is equal to $(1/2)*(80-40)*(\$6-\$2)=\$40$.
- e. As Figure 6.5 in the textbook shows, the deadweight loss could now go as high as the sum of the conventional deadweight loss and the rents, or $\$160$ rents + $\$80$ DWL = $\$240$. This is because, as noted in the text, "rent-seeking can use up resources – lobbyists spend their time influencing legislators, consultants testify before regulatory panels, and advertisers conduct public relations campaigns. Such resources, which could have been used to produce new goods and services, are instead consumed in a struggle over the distribution of existing goods and services. Hence, the rents do not represent a mere lump-sum transfer; it is a measure of real resources used up to maintain a position of market power."