1. A monopoly is considering selling several units of a homogeneous product as a single package. A typical consumer’s demand for the product is *Qd* = 130 - 0.25*P*, and the marginal cost of production is $160.  
  
a. Determine the optimal number of units to put in a package.  
  
units  
  
b. How much should the firm charge for this package?  
  
$

2.

As a manager of a chain of movie theaters that are monopolies in their respective markets, you have noticed much higher demand on weekends than during the week. You therefore conducted a study that has revealed two different demand curves at your movie theaters. On weekends, the inverse demand function is *P* = 20 – 0.001*Q*; on weekdays, it is *P* = 15 – 0.002*Q.* You acquire legal rights from movie producers to show their films at a cost of $25,000 per movie, plus a $2.50 “royalty” for each moviegoer entering your theaters (the average moviegoer in your market watches a movie only once).  
  
What type of pricing strategy should you consider in this case?

|  |  |
| --- | --- |
|  | Second degree price discrimination |
|  | Block pricing |
|  | Third degree price discrimination |
|  | First degree price discrimination |

What price should you charge on weekends?  
  
**Instruction:** Round your answer to two decimal places.  
  
$  
  
What price should you charge on weekdays?  
  
**Instruction:** Round your answer to two decimal places.  
  
$

3.

BAA is a private company that operates some of the largest airports in the United Kingdom, including Heathrow and Gatwick. Suppose that BAA recently commissioned your consulting team to prepare a report on traffic congestion at Heathrow. Your report indicates that Heathrow is more likely to experience significant congestion between July and September than any other time of the year.  
  
Based on your estimates, demand is *Q1d* = 600 – 0.25*P*, where *Q1d* is quantity demanded for runway time slots between July and September. Demand during the remaining nine months of the year is *Q2d* = 220 – 0.1*P*, where *Q2d* is quantity demanded for runway time slots.  
  
The additional cost BAA incurs each time one of the 80 different airlines utilizes the runway is £1,100 provided 80 or fewer airplanes use the runway on a given day. When more than 80 airplanes use Heathrow’s runways, the additional cost incurred by BAA is £6 billion (the cost of building an additional runway and terminal). BAA currently charges airlines a uniform fee of £1,712.50 each time the runway is utilized.  
  
As a consultant to BAA, what pricing plan would clearly enhance Heathrow’s profitability?  
  
  
  
What price should BAA charge for runway slots between July and September?  
  
£  
  
What price should BAA charge for runway slots for the remaining nine months?  
  
£