

**FE431: PUBLIC FINANCE**  
**Fall 2006**  
**Professor Schmitt**  
**Homework 4 – due October 4th**

Consumers	Number of Fireworks			
	1	2	3	4
Mary	600	400	200	100
Bill	150	125	100	75
Tom	125	100	75	50
Mark	100	75	50	25

A. Find the demand curve for Fireworks assuming that it is a pure public good

Number of Fireworks  $\Sigma$ MB

1	\$975
2	700
3	425
4	250

Sum vertically - you may wish to show this graphically

B. If the marginal cost of lighting fireworks is \$425 no matter how many are produced, then what is the efficient number of fireworks to light?

At a marginal cost of \$425, the efficient number of fireworks is 3.

C. Suppose the marginal cost of lighting fireworks is \$250 per firework no matter how many are produced. Calculate the efficient number of fireworks. If a Lindahl scheme is used to finance the fireworks, what price should be charged to Mary, Bill, Tom, and Mark?

The efficient number of fireworks would be 4 and Mary would be charged \$100 per firework (\$400 total), Bill would be charged \$75 per firework (\$300 total), Tom would be charged \$50 per firework (\$200 total), while Mark would pay \$25 for each firework (\$100 total).