Problem Set 5
Econ 4113

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Due: March 5, 2004

Problem 1: Solve the problem

$max \, x^2 + 2(y/\theta)^2$ s.t. $2x + 3y \leq 10, x \geq 0, y \geq 0$

where $\theta > 0$ is a parameter. Let $V(\theta)$ be the value of the problem. Evaluate $\frac{dV}{d\theta}(1)$ in two ways: (a) differentiate the formula you obtained for $V$; (b) apply the envelope theorem.

Problem 2: Do Exercise 5.2 from Dixit.