科目：個體經濟學　適用：經濟系三

編號： 721

考生注意：
1.依次序作答，只要標明題號，不必抄題。
2.答案必須寫在答案卷上，否則不予計分。
3.限用藍、黑色筆作答；試題須隨卷繳回。

1. Suppose that a budget equation is given by $p_1x_1 + p_2x_2 = m$. The government decides to impose a lump-sum tax of u, a quantity tax on good 1 of t, and a quantity subsidy on good 2 of s. What is the formula for the new budget line?(10%)

2. Explain why marginal utility itself has no behavioral content. However, the marginal rate of substitution can be represented as the ratio of marginal utilities, and it does have behavioral content, why? (10%)

3. Is it possible all the goods are inferior? Explain your answer. (10%)

4. Cindy consumes goods x and y. Her demand for x is given by $x(p_x, m) = 0.05m - 5.15p_x$, where p_x is the price of good x. Now her income is \$419, the price of x is \$3, and the price of y is \$1. If the price of x rises to \$4, what are the income effect and substitution effect on her demand? (10%)

5. If the demand curve for a good is given by the equation $q = 2/p$, where q is quantity and p is price, what is the elasticity of demand when the price p is 1? (10%)

6. John has quasilinear preferences and he loves apples. His inverse demand function for apples is $p(x) = 49 - 6x$, where x is the number of apples that he consumes. He is currently consuming 8 apples at a price of \$1. If the price of apples rises to \$7 per apple, what is the change in John's consumer surplus? (10%)

7. A profit-maximization competitive firm uses just one input, x, Its production function is $q = 2x^{1/2}$, the price of output is 42 and the factor price is \$7. What is the amount of the factor that the firm demands? (10%)

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8. Let's consider the cost function $c(y) = y^2 + 1$. Please write down the following related terms:

a) variable costs and fixed costs (5%)

b) average variable costs and average fixed costs (5%)

c) average costs and marginal costs. (5%)

What is the output such that marginal cost equals average cost? (5%)

At what quantity of output is short-run average cost minimized? (5%)

What does the supply curve look like? (5%)