UNIVERSITY OF ZAMBIA

DEPARTMENT OF ECONOMICS

ECN 2115: INTERMEDIATE MICROECONOMIC THEORY November, 2015.

INSTRUCTION: ANSWER ALL QUESTIONS AND LABEL FULLY.

1. Mr. William Pensulo is faced with a utility function, U=U(X, Y) where X and Y are goods in his consumption bundle. His demand for good X is given by the demand function:

$P_x = 200 - 2X$, where P_x is the price of X and X is quantity demanded.

We are given that P_x = K10, Mr Pensulo's income is K500 and the Engel curve for good X stipulated by the function M= 400 + 2X

Where M= income and X is quantity demanded. What is the cross price elasticity of demand of good X in respect of the Py where P_y is the price of Y?

2. Maliya Foloko's preferences are described by the utility function $U = (X_1, X_2) = X_1^2 + 2X_2^2$.

(a) Graph the indifference ~~gives~~ Curves for U= 20 and U= 40.

(b) Given that P_1 = K2.50 and P_2 = K7.50, and M= K60; Find the optimal quantities for Maliya Foloko's consumption bundle.

(c) If Maliya Foloko's income increased by K5, by much will her total utility increase?

3. Mojo is a stamp collector. The only thing other than stamps that Mojo consumes is shakers. It turns out that Mojo's preferences are represented by the utility function;

U= (s, t) = s + ln t, where s= stamps he collects and t= umber of packets of shakers that he consumes. The price of stamps id P_s and price of a packet of shakers is P_t. Mojo's income is M.

Derive an expression that says that the ratio of Mojo's marginal utility for shakers to his marginal utility for stamps is equal to the ratio of the price of shakers to the price of stamps.

$\frac{MU_s}{MU_s} = \frac{P_t}{P_s}$