

Problem 1:

Five consumers have the following marginal utility of apples and pears:

	Marginal Utility of Apples	Marginal Utility of Pears
Claire	6	12
Phil	6	6
Haley	6	3
Alex	3	6
Luke	3	12

The price of an apple is \$1, and the price of a pear is \$2. Which, if any, of these consumers are optimizing over their choice of fruit? For those who are not, how should they change their spending?

Problem 2:

A consumer has utility function: $U = (X - 2)Y$

- Compare the level of satisfaction between three consumption bundles:
 - Bundle A: 10 units of X and 8 units of Y
 - Bundle B: 15 units of X and 7 units of Y
 - Bundle C: 12 units of X and 9 units of Y
- When price of X is \$2 per unit and price of Y is \$3 per unit. The consumer income is \$148. Calculate the consumer's optimum bundle to maximize satisfaction.
- Compute the new consumer's optimal bundle when price of Y drops to \$1.5 per unit (The consumer's income and good X's price are unchanged)? Find the income and substitution effects of his/her consumptions?

Problem 3:

Anya is awake for 100 hours per week.

- Using one diagram, show Anya's budget constraints if she earns \$12 per hour, \$16 per hour, and \$20 per hour.
- Now draw indifference curves such that Anya's labor-supply curve is upward-sloping when the wage is between \$12 and \$16 per hour and backward-sloping when the wage is between \$16 and \$20 per hour.