Locating the Consumer’s Optimal Combination of Goods

**Key Concepts:**

Review: The **budget constraint** shows the consumer’s opportunities for trade, or at what level the market is allowing him/her to trade. It shows the relative prices of the goods.

Review: The consumer’s **indifference curve** map shows his/her willingness to trade.

The consumer’s **optimal combination** of goods is at the point where the budget line is tangent to an indifference curve or where the marginal rate of substitution (MRS) is equal to the **opportunity cost** or relative price of the two goods, as indicated by the slope of the budget constraint.

**Review:** The **budget constraint** gives the consumer’s opportunities for trade. It represents the possibilities open to the consumer.

In the graph on the left, the slope \( \frac{P_x}{P_y} \) is the relative price of toys measured in terms of snacks. It tells us that if this consumer gives up one toy, he can get three snacks.

This graph shows us the consumer’s **optimal combination** of snacks and toys. It is two toys and six snacks. You can determine this point by seeing that it is the one point shared by the **budget constraint** and the highest **indifference curve** that is tangent to the budget constraint. On the left, that indifference curve is \( U_0 \).

At the tangency point (2,6) the MRS (the slope of the indifference curve) is **equal** to the slope of the budget constraint.
Consider a point at which the MRS<3, as on the left. At this point the consumer is willing to give up a toy for fewer than three snacks. But why should he? The market as represented by his budget constraint will let him get three snacks for that toy.

This consumer will continue to trade until he gets to the equilibrium point at which \( \frac{P_x}{P_y} = 3 \).

At the point on the left, MRS>3. Here the consumer is willing to give up more than three snacks for one toy. Because he only has to give up three snacks to get the toy, he trades until \( \frac{P_x}{P_y} = 3 \).

Note: Pay attention to the difference between tangency and intersection:

In the graph at the left, the lower indifference curve intersects the budget constraint twice, but is tangent to \( U_0 \) only once. The point of tangency determines the optimal point for the consumer.