

**CLUTCH**

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CONCEPT: BUDGET CONSTRAINT

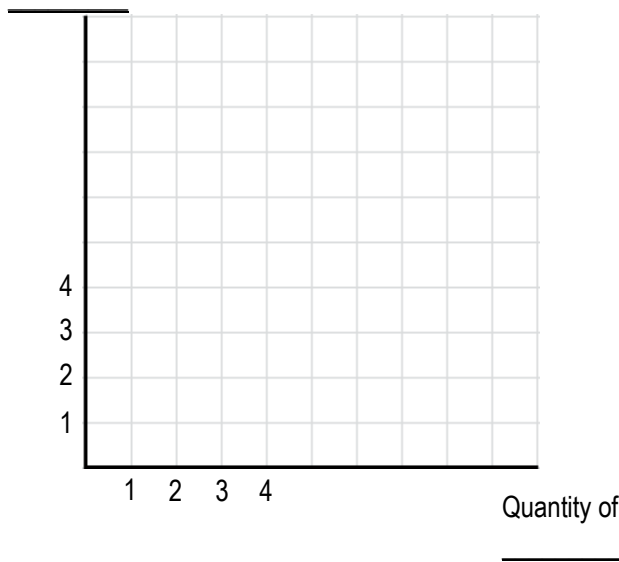
• A **budget constraint** shows the limitations on what you can \_\_\_\_\_

**Income** – The \_\_\_\_\_ amount of money available to spend

Choose between various combinations of \_\_\_\_\_ goods that you can \_\_\_\_\_

**EXAMPLE:** Party Boy Paul spends all of his income, \$18, on two goods: Vodka and Beer. Vodka sells for \$6 and Beer sells for \$3. Complete the table and show PBP’s budget constraint on the graph.

Quantity of



Max Quantity of Vodka:
Max Quantity of Beer:
Formula for Maximum Quantity:

<b>Affordable:</b> ____ Vodka and ____ Beer	<b>Unaffordable:</b> ____ Vodka and ____ Beer
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**PRACTICE:** The Amazing Andy spends all of his \$1,200 income on magic tricks. If card tricks cost \$50 and wand tricks cost \$300, which of the following consumption bundles lies upon Amazing Andy’s budget constraint?

- a) 10 card tricks and 2 wand tricks
- b) 8 card tricks and 3 wand tricks
- c) 24 card tricks and 4 wand tricks
- d) 18 card tricks and 1 wand trick

**CONCEPT: BUDGET CONSTRAINT – CHANGE IN INCOME**

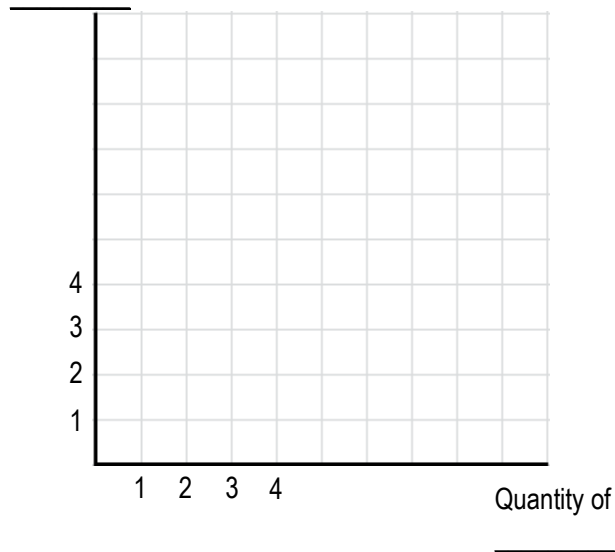
• If income changes, the budget constraint shifts:

Income increase → \_\_\_\_\_

Income decrease → \_\_\_\_\_

**EXAMPLE:** Party Boy Paul spends all of his income, **\$24**, on two goods: Vodka and Beer. Vodka sells for \$6 and Beer sells for \$3. Complete the table and show PBP’s budget constraint on the graph.

Quantity of



Formula for Maximum Quantity:
Max Quantity of Vodka:
Max Quantity of Beer:

**PRACTICE:** An increase in income will:

- a) Increase the slope of the budget constraint
- b) Decrease the slope of the budget constraint
- c) Shift the budget constraint inward
- d) Shift the budget constraint outward

**CONCEPT: BUDGET CONSTRAINT – CHANGE IN PRICE OF A GOOD**

• If the price of a good changes, the \_\_\_\_\_ for \_\_\_\_\_ that good shifts:

Price increase → \_\_\_\_\_

Price decrease → \_\_\_\_\_

**EXAMPLE:** Party Boy Paul spends all of his income, \$24, on two goods: Vodka and Beer. Vodka sells for \$6 and Beer sells for \$4. Complete the table and show PBP’s budget constraint on the graph.

Quantity of



Formula for Maximum Quantity:
Max Quantity of Vodka:
Max Quantity of Beer:

**PRACTICE:** A change in the price of one good will:

- a) Affect the slope of the budget constraint
- b) Not affect the slope of the budget constraint
- c) Shift the budget constraint inward
- d) Shift the budget constraint outward

**PRACTICE:** A consumption bundle inside the budget line

- a) Is unaffordable
- b) Implies a situation where the consumer spends all of his income on both goods
- c) Implies a situation where the consumer purchases only one good
- d) Is affordable and all available income has been spent
- e) Is affordable but has some unspent income

**PRACTICE:** Lil Kiddo just got \$10 for his allowance. He has big dreams for that money and plans to buy out the toy store, slapping down the tenner at the cash register. Disillusioned, he decides to buy pogs for \$0.50 each and action figures for \$2 each. Which consumption bundle is unaffordable to Lil Kiddo?

- a) 0 pogs and 0 action figures
- b) 8 pogs and 3 action figures
- c) 5 pogs and 4 action figures
- d) 10 pogs and 2 action figures

**PRACTICE:** Campin' Sam buys firewood and ice. When the price of firewood decreases, the maximum number of firewood she can purchase \_\_\_\_\_ and the maximum number of ice she can purchase \_\_\_\_\_

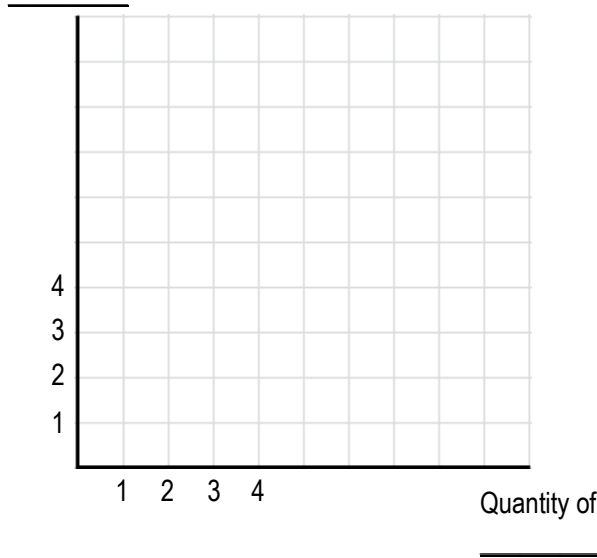
- a) Increases; increases
- b) Increases; decreases
- c) Decreases; increases
- d) Increases; remains constant
- e) Remains constant; remains constant

CONCEPT: INDIFFERENCE CURVES

- The **budget constraint** show consumption bundles that we can \_\_\_\_\_ with our income.
- An **indifference curve** shows consumption bundles that give the same amount of \_\_\_\_\_
  - **Utility** – the \_\_\_\_\_ one receives from \_\_\_\_\_ of goods
    - **Util** – the unit of measurement for utility
    - **Marginal Utility** – the \_\_\_\_\_ satisfaction from consuming \_\_\_\_\_ of a good
      - Follows the law of \_\_\_\_\_ returns!

**EXAMPLE:** Party Boy Paul's gains the same amount of utility from the consumption bundles shown in the table. Graph the indifference curve for PBP's consumption of Vodka and Beer.

Quantity of



Utility = 500 utils		
Bundle	Vodka Quantity	Beer Quantity
A	1	9
B	2	4
C	4	2
D	7	1

Utility = 750 utils		
Bundle	Vodka Quantity	Beer Quantity
E	2	9
F	3	5
G	5	3
H	8	2

**Indifference Curve Map** – a \_\_\_\_\_ of indifference curves representing a consumer's utility function

**Marginal Rate of Substitution (MRS)** – amount of a good the consumer is willing to give up for \_\_\_\_\_ unit of another

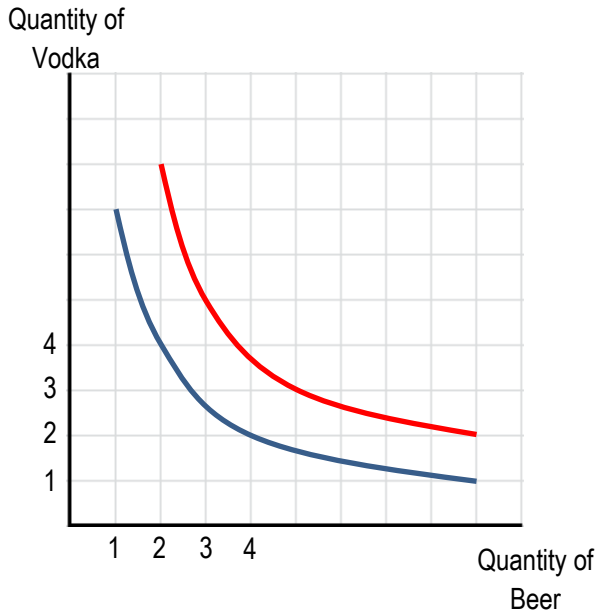
- The MRS is the \_\_\_\_\_ of the indifference curve at a point

$$Slope = \frac{\Delta y}{\Delta x} = \frac{Rise}{Run}$$

Utility = 500 utils		
MRS when consuming 7 Vodka:	MRS when consuming 4 Vodka:	MRS when consuming 2 Vodka:

**CONCEPT: PROPERTIES OF INDIFFERENCE CURVES**

• **Property 1:** \_\_\_\_\_ indifference curves are preferred to \_\_\_\_\_ indifference curves.

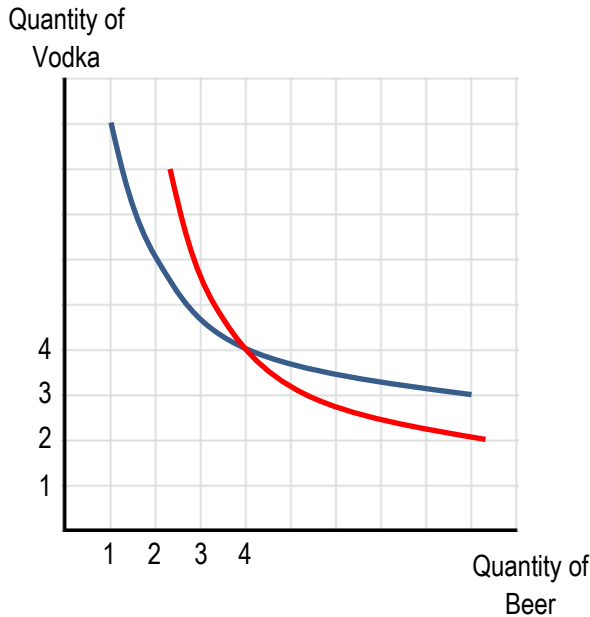


- People prefer to consume \_\_\_\_\_ → \_\_\_\_\_ utility
- Higher indifference curves result in \_\_\_\_\_ consumption

• **Property 2:** Indifference curves are \_\_\_\_\_ and \_\_\_\_\_

- Consumers like both goods. If one quantity is decreased, the other must be increased to remain \_\_\_\_\_
- When consumption of one good is \_\_\_\_\_, we are willing to give up \_\_\_\_\_ of the other good.

• **Property 3:** Indifference curves \_\_\_\_\_ cross



- An intersecting point means that the \_\_\_\_\_ level of consumption results in \_\_\_\_\_ levels of utility. Impossible!

**PRACTICE:** Which of the following is true about indifference curves?

- a) Indifference curves shift outward as income increases
- b) When a consumer has more of one good, they are less willing to exchange it for a unit of another good
- c) Indifference curves show all combinations of goods that result in the same level of utility
- d) Both (a) and (c)

**PRACTICE:** At different points along an indifference curve,

- a) The marginal rate of substitution remains constant
- b) The marginal rate of substitution is zero
- c) A consumer prefers the consumption points that are further from the origin
- d) A consumer does not prefer one consumption level over another

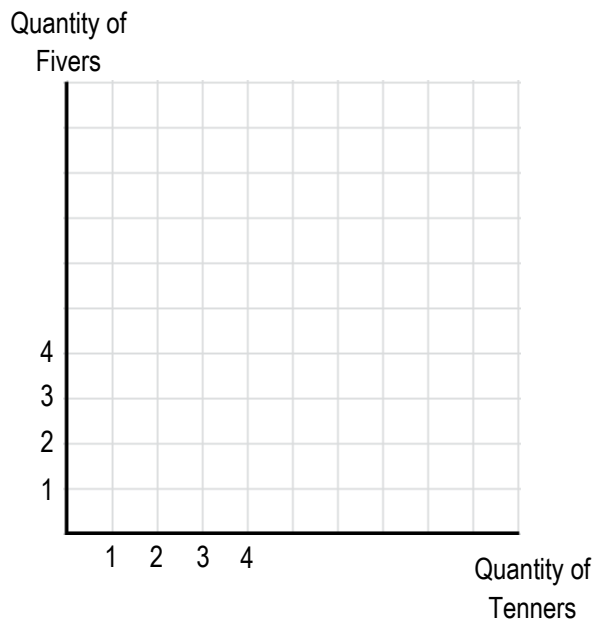
**PRACTICE:** If the marginal rate of substitution is equal to 2 at a point on an indifference curve, then the consumer would:

- a) Give up 1 units of the “y-axis” good for 2 units of the “x-axis” good
- b) Give up 2 units of the “y-axis” good for 1 unit of the “x-axis” good
- c) Pay an additional \$2 for one unit of the “y-axis” good
- d) Pay an additional \$2 for one unit of the “x-axis” good

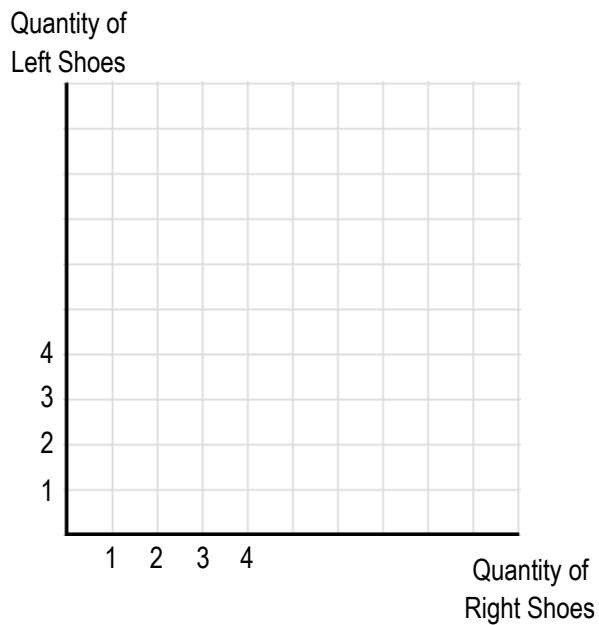


CONCEPT: INDIFFERENCE CURVES FOR PERFECT SUBSTITUTES AND PERFECT COMPLEMENTS

- **Perfect Substitutes** have \_\_\_\_\_ indifference curves



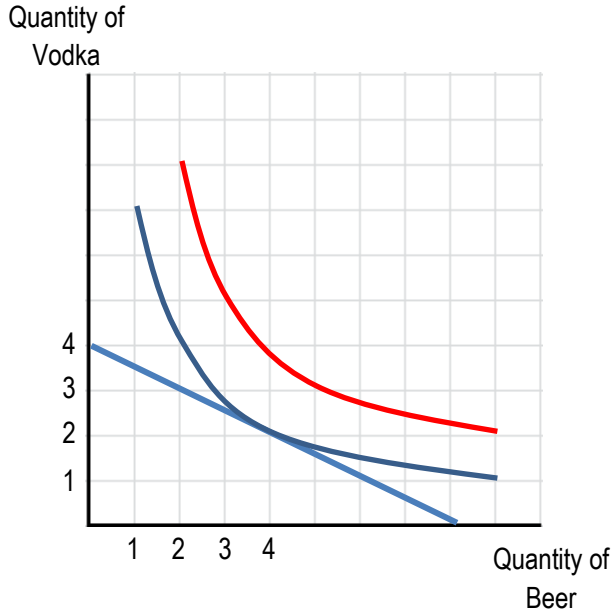
- **Perfect Complements** have \_\_\_\_\_ indifference curves



**CONCEPT: THE CONSUMER OPTIMUM CONSUMPTION**

- The consumer’s optimum consumption reflects the \_\_\_\_\_ utility possible within their \_\_\_\_\_
  - **Optimum Consumption** – The point where an indifference curve is \_\_\_\_\_ to the budget constraint

**EXAMPLE:** Party Boy Paul spends all of his income, \$24, on two goods: Vodka and Beer. Vodka sells for \$6 and Beer sells for \$3. Indifference curves for two levels of utility are also shown. What is PBP’s optimum consumption bundle?



- A change in the level of income or price of a good will change the optimum consumption:



**CONCEPT: OPTIMIZING CONSUMPTION – MARGINAL UTILITY PER DOLLAR SPENT**

• The consumer’s optimum consumption reflects the \_\_\_\_\_ utility possible within their \_\_\_\_\_

□ **Optimum Consumption** occurs where marginal utility per \_\_\_\_\_ is equal for both goods

**EXAMPLE:** Breakfast Bill spends all his income, \$10, on eggs and coffee. Eggs cost \$2 and coffee costs \$1. The following table shows Breakfast Bill’s marginal utility at different levels of consumption. What is the optimum consumption?

Number of Eggs	Marginal Utility	Marginal Utility per Dollar
1	20	
2	16	
3	10	
4	6	
5	2	
6	1	

Number of Coffees	Marginal Utility	Marginal Utility per Dollar
1	20	
2	15	
3	10	
4	5	
5	3	
6	1	

5 Eggs and 0 Coffee	4 Eggs and 2 Coffee	3 Eggs and 4 Coffee
1 Egg and 3 Coffee	4 Eggs and 5 Coffee	

**PRACTICE:** As Caffeinated Carl consumes additional cups of coffee, his

- a) Marginal utility from coffee increases
- b) Marginal utility from coffee decreases
- c) Total utility from coffee decreases
- d) Both (b) and (c) are correct

**PRACTICE:** Hollywood Slim consumes movies and popcorn. If his marginal utility per dollar from movies is 8 and his marginal utility from popcorn is 7,

- a) Total utility is maximized
- b) Marginal utility is maximized
- c) Total income must increase in order to reach an optimum consumption
- d) Total utility could increase by buying more popcorn and less movies
- e) Total utility could increase by buying more movies and less popcorn