Chapter six

Consumer Choice and Behavioral Economics

Utility

- **utility is the enjoyment or satisfaction people received from consuming goods and services.**

- **the economic model of consumer behavior is easier to understand if we assume that utility is measurable, like temperature.**

***Total utility*: is the sum of utilities (satisfaction) *from consuming a quantity of good*.**

***Marginal utility*: is the change in total utility from consuming an *additional unit* of good.**

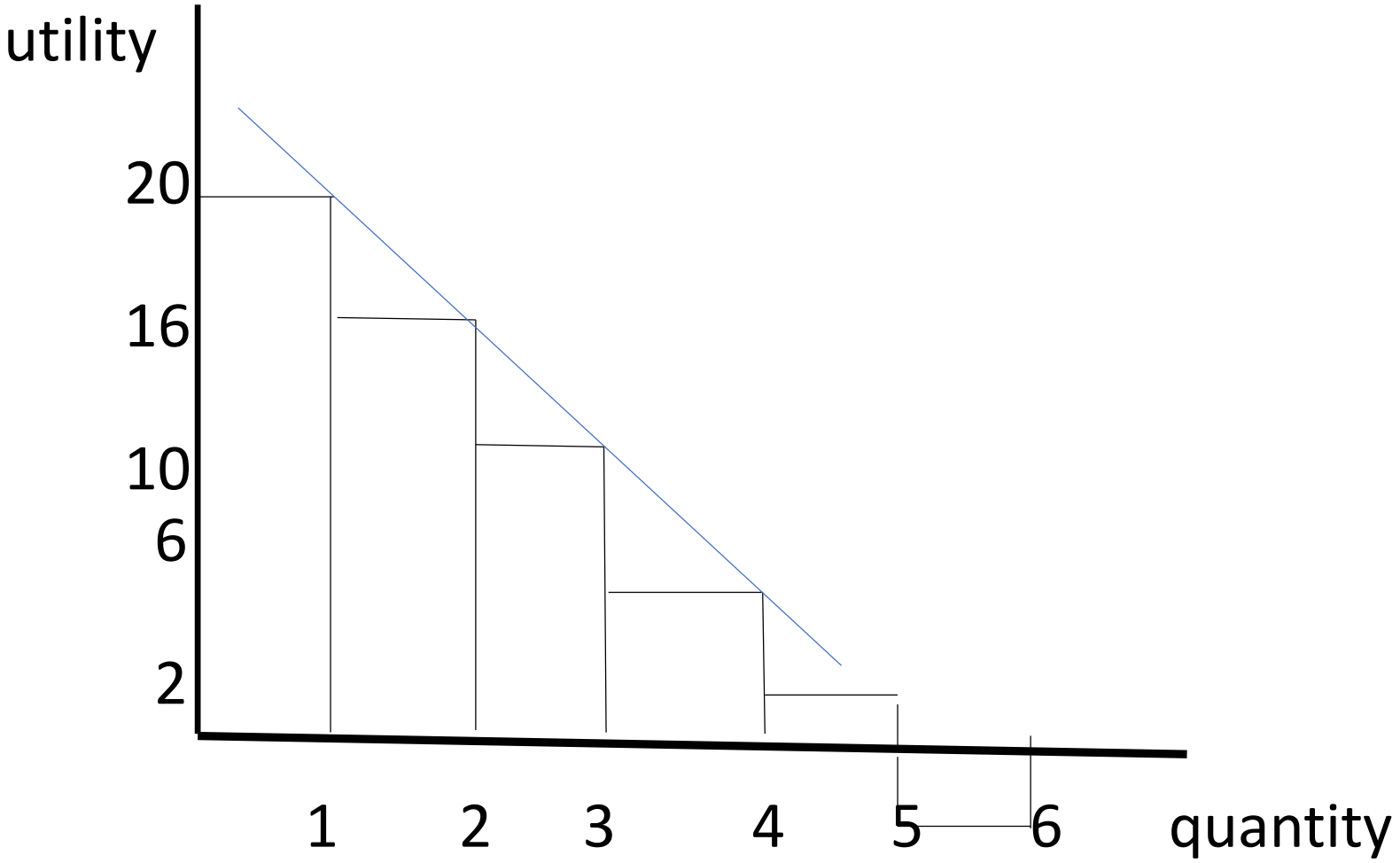
Marginal utility and total utility

For example, suppose you are very hungry. You decide to eat pizza. The first slice of pizza gives you 20 units of utility. After eating the first slice, you decide to have the second slice. The satisfaction you receive from the two slices is 36. Three slices give you 46 units of utility. This table shows the total utility. Estimate MU.

quantity	Total utility	Marginal utility
1	20	20
2	36	16
3	46	10
4	52	6
5	54	2
6	52	-2

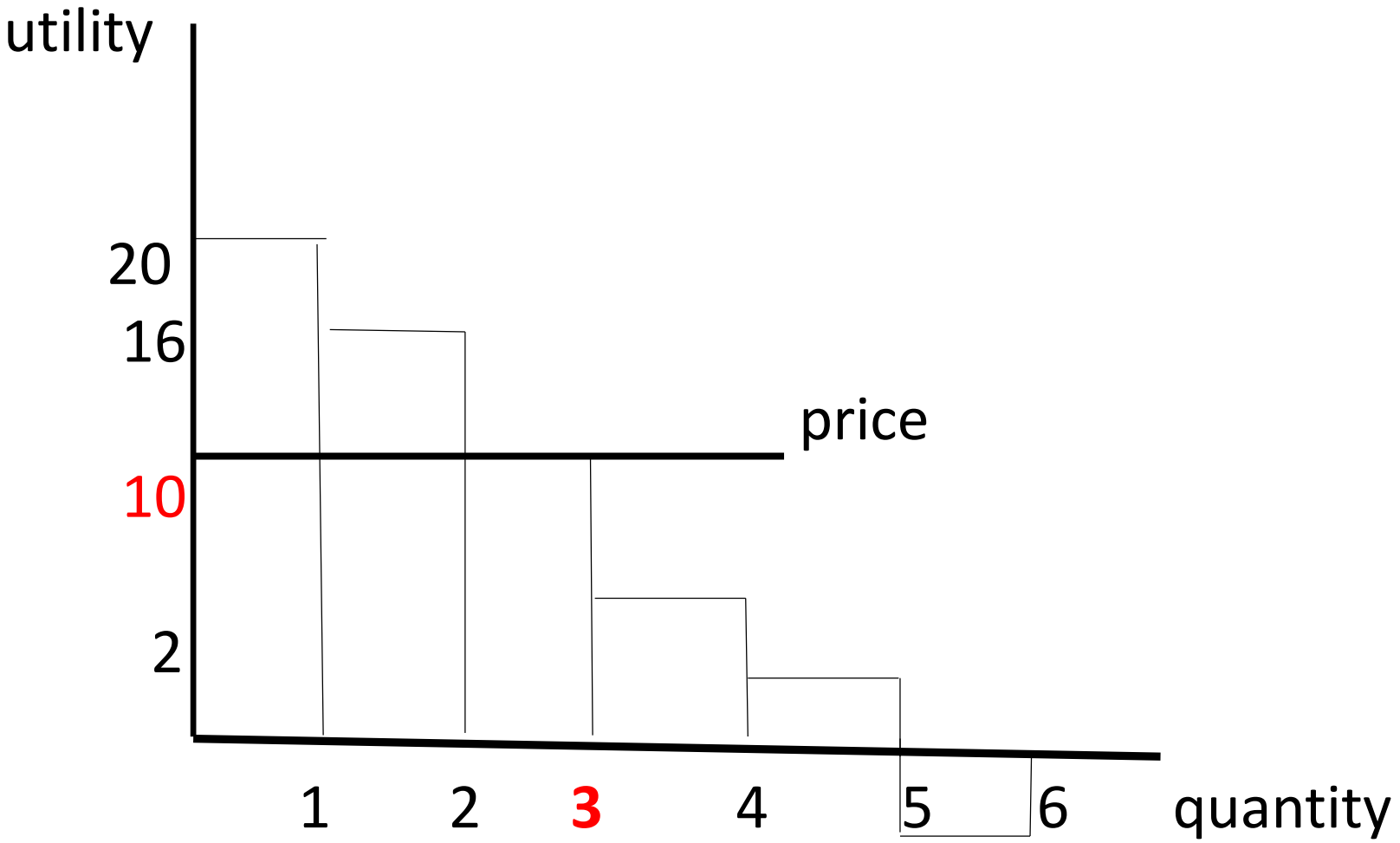
The law of diminishing marginal utility

the marginal utility received from consuming an additional unit of good decreases.



If the price is $10. what is the consumer equilibrium?

Consumer equilibrium exists when **the price equals the marginal utility.**



Consumer surplus

- Consumer surplus: can be measured by the *area under demand curve (marginal utility curve) and above the price of good.*
- **Consumer surplus:**

If the price is $10. what is the consumer surplus?

the consumer will buy 3 units because the price equals marginal utility

The consumer surplus = marginal utility - price

for the first unit = 20 – 10 = 10

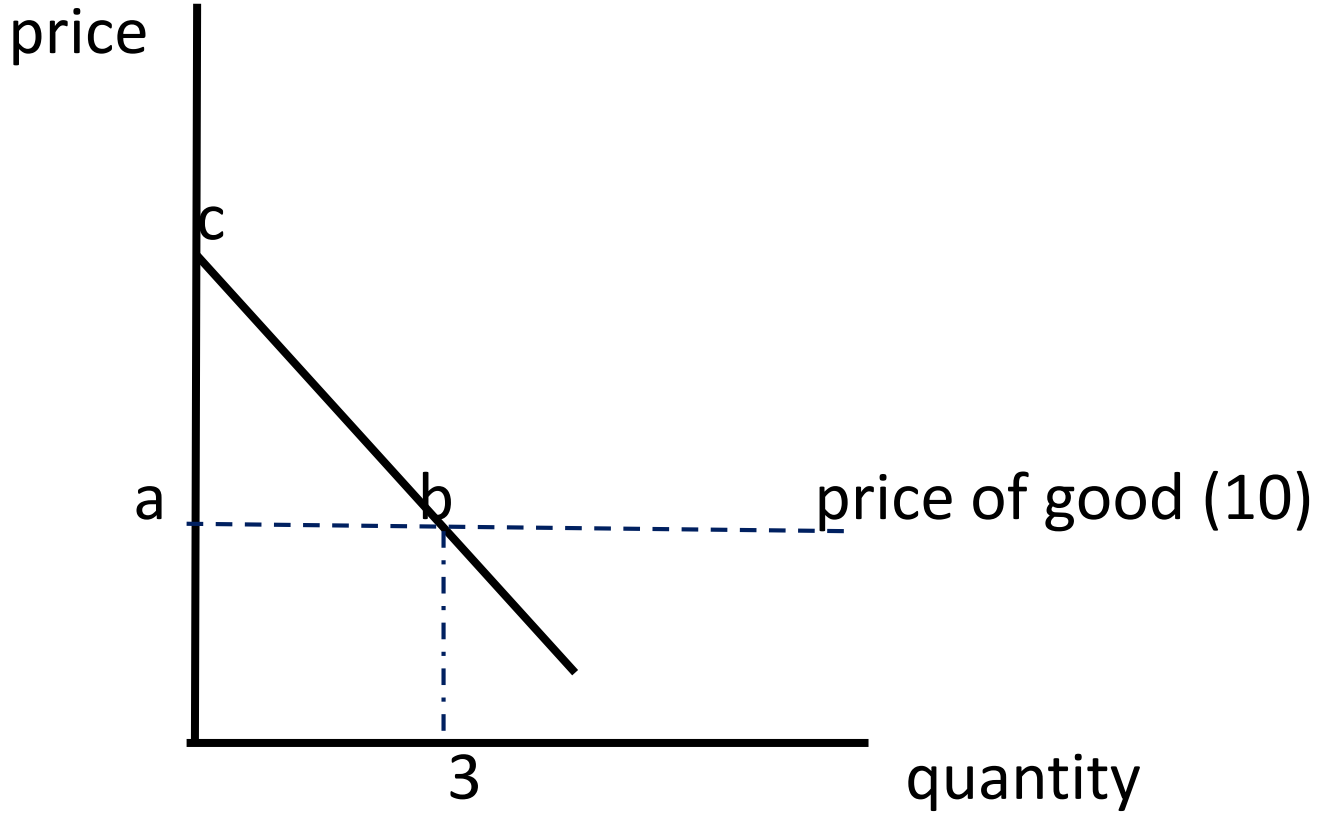
for the second unit =16 -10 = 6

for the third unit = zero.

The consumer surplus = 10 + 6 + 0= 16 (the shaded area)

Demand curve

- **Consumer surplus is the area under demand curve and above the market price** (the shaded area).
- The equilibrium is at point (b) because MU equals price



example:

Quantity	1	2	3	4	5	6
Total utility	40	70	90	100	100	90

Please answer the following questions:

1. Could you estimate the marginal utility?
2. What is the definition of total utility and marginal utility?
3. What is the law of diminishing marginal utility?
4. If the price of this good is 10 pounds. What is the quantity of equilibrium?
5. Could you estimate and graph the consumer surplus?

quantity	Total utility	Marginal utility	price
1	40	40	10
2	70	30	10
3	90	20	10
4	100	10	10
5	100	0	10
6	90	-10	10

The law of diminishing marginal utility :

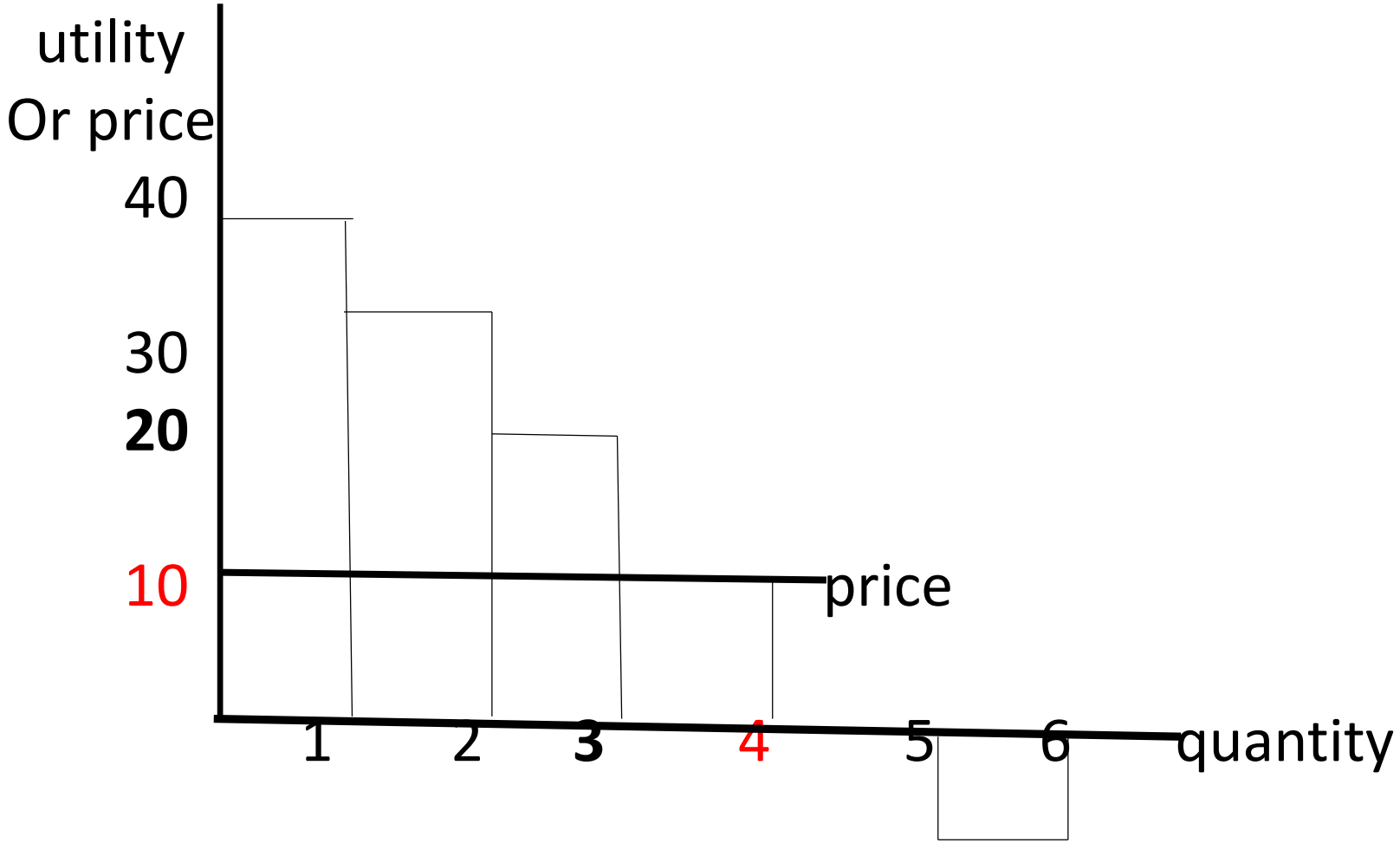
the marginal utility received from consuming an additional unit of good decreases

- The quantity of equilibrium is 4 units, where MU = price
- This person consumes four units of that good.

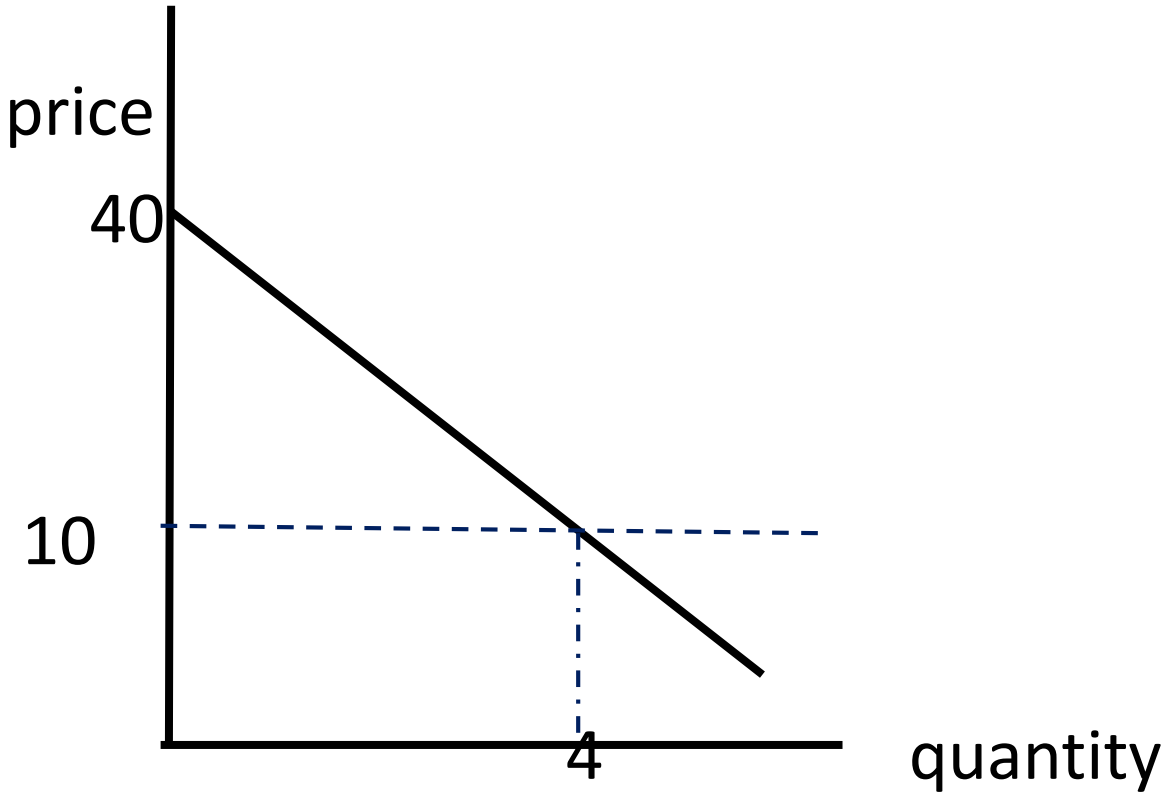
- Consumer surplus = 30 + 20 +10 +0 = 60 units

If the price is 10. what is the consumer equilibrium?

Consumer equilibrium exists when the price equals the marginal utility.



Demand curve



Consumer surplus = 30 *4 /2= 60

The rule of equal marginal utility per dollar spent

- If there are two goods. The law of equal marginal utility per dollar is

$$\frac{MU1}{P1} = \frac{MU2}{P2}$$

The marginal utility per dollar for the first good= the marginal utility per for the second good.

The second condition: budget constraint.

Spending on first good + spending on second good = total spending

You have two goods: pizza and milk. if the price of pizza is 2 dollars, the price of milk is one dollar and the person has 10 dollars to spend on the two goods. What is the optimal decision for this person?

Slices of pizza	Total utility of pizza	Cups of milk	Total utility of milk
1	20	1	20
2	36	2	35
3	46	3	45
4	52	4	50
5	54	5	53
6	52	6	52

The marginal utility per dollar for pizza = the marginal utility per for milk

$$\frac{MU1}{P1} = \frac{MU2}{P2}$$

slices	Total utility	Marginal utility	$\frac{MU1}{P1}$	cups	Total utility	Marginal utility	$\frac{MU2}{P2}$
1	20	20	10	1	20	20	20
2	36	16	8	2	35	15	15
3	46	10	5	3	45	10	10
4	52	6	3	4	50	5	5
5	54	2	1	5	53	3	3
6	52	-2	-1	6	52	-1	-1

Combinations with equal marginal utility per dollar	Marginal utility per dollar	Total spending
One slice of pizza and 3 cups of milk	10	2+3= 5
3 slices of pizza and 4 cups of milk	*5*	*6+4=10*
4slices of pizza and 5 cups of milk	3	8+5=13