1.1 Basic Economic Concepts

Economics is the social science that studies the production, distribution, and consumption of goods and services.

Microeconomics focuses on the micro: individual people and their decisions

- Decisions by an individual about what to do and what not to do.
- Why do individuals have to make choices?
  - There are limited resources available hence forcing you to choose between what to allot it to.

A resource is anything that can be used to produce something else.

Factors of Production (Resources) - Anything used to produce something else

- Land - comes from nature
- Labor - the time of workers
- Capital - built by humans/has had some aspect of human influence.
  - Human Capital - educational achievements and skills of workers.
- Entrepreneurship
  - innovation and thought

Note that for something to be considered a "resource," it has to be able to produce something else. Something like "cheeseburger" would not be considered as a resource.

- Trees are `land` but wood/lumber is `capital`
- Oil is `land`, gasoline is `capital`

Capital goods are goods used to produce consumer goods (purchased for personal use by customers).

- Note that consumer goods can become capital goods if it is used to make more consumer goods.

Scarcity: Inequality exists between wants and the resources available to satisfy the wants.
Scarcity = Wants > Available Resources
hence you have to weight the costs and benefits to choose

Incentives are rewards or punishments that motivate particular choices.

- Incentives are used in the midst of scarcity to promote choices that are not attractive by itself.

Marginal Analysis

- the study of costs and benefits of doing a little bit more of an activity versus a little bit less… how much of an activity is worth it?

When we make choices:

- Trade-off: alternatives that we give up whenever we choose one course of action over another.
  - Opportunity cost is the second-best choice. (The most attractive trade-off)
- Incentives: positive rewards for making some kind of choice or behaving in a certain way.
  - i.e. getting an “A” because you studied
- Disincentive - often relate to things such as punishment or consequences.
  - i.e. getting detention

Since scarcity forces you to choose, there are three economic questions considered.

- What to produce
- How to produce
- For whom to produce.

Command Economy (Communism)

- Government owns all the factors of production
- Government answers the three economic questions

Free Market

- Individuals own the factors of production → Private business.
- Profit and Incentives
- Competition and self-interest

Mixed

- A system with free markets but some government intervention.

Positive vs. Normative Economics

- Positive Economics - What actually is (The fact)
  - The branch of economic analysis that describes the way the economy actually works
  - If it makes logical sense/could be proven then it is positive.
    - i.e. rising price of crude oil = increase in gas prices.
    - i.e. rise in average temperatures = increase in demand for sunscreen products.
- Normative Economics - What should be
  - Makes prescriptions about the way the economy should work.
  - Much more opinion-based.
    - i.e. pollution is the most serious economic problem.

Bottom line: if it *can* be tested, it falls under Positive Economics.

1. Raising taxes on the wealthy to pay for government programs grows the economy
2. Raising taxes on the wealthy slows economic growth.
3. The government should raise taxes on the wealthy to pay for helping the poor.

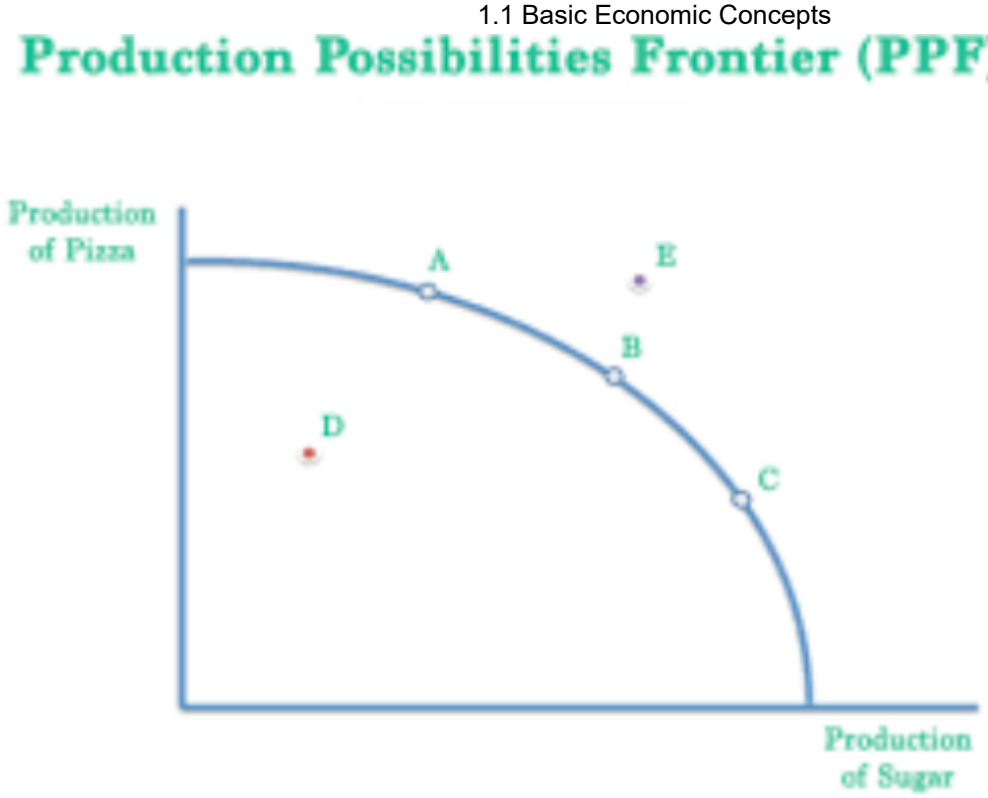
Which are normative and which are positive?

1 and 2 are seemingly contradictory and opposites - yet both of them are still `positive economics`. Why? Because they can be tested and can be proven (either true or false).

3 includes subjectivity. It is a matter of "what the government *should* do (according to the narrator)." That is why it's normative.

1.2 Production Possibility Curve

- Illustrates the trade-offs facing an economy that produces only two goods.
- Shows the maximum quantity of one good that can be produced for each possible quantity of the other good produced.
- Goal is to shift outward and expand (this indicates economic growth).



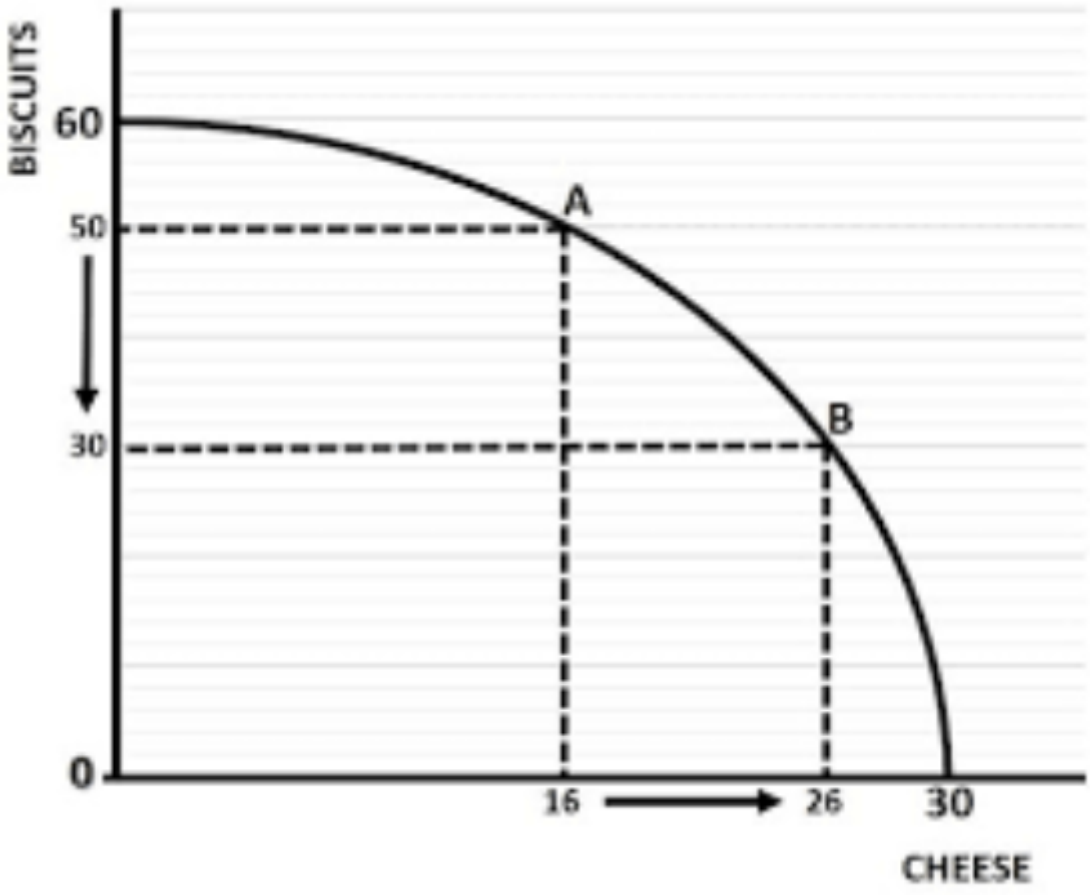
A, B, C, are efficient output combinations that fully utilize the resources.

- Note that A, B, and C are efficient output combinations (achieves productive efficiency), but they might or might not be appealing to the consumers/society (allocative efficiency)

D is an inefficient combination - not all resources fully utilized.

E is an output combination that is not yet attainable. (But is the goal)

An economy achieves allocative efficiency if it produces at the point along its production possibilities curve that makes consumers as well off as possible.



Opportunity cost = the opportunity lost.

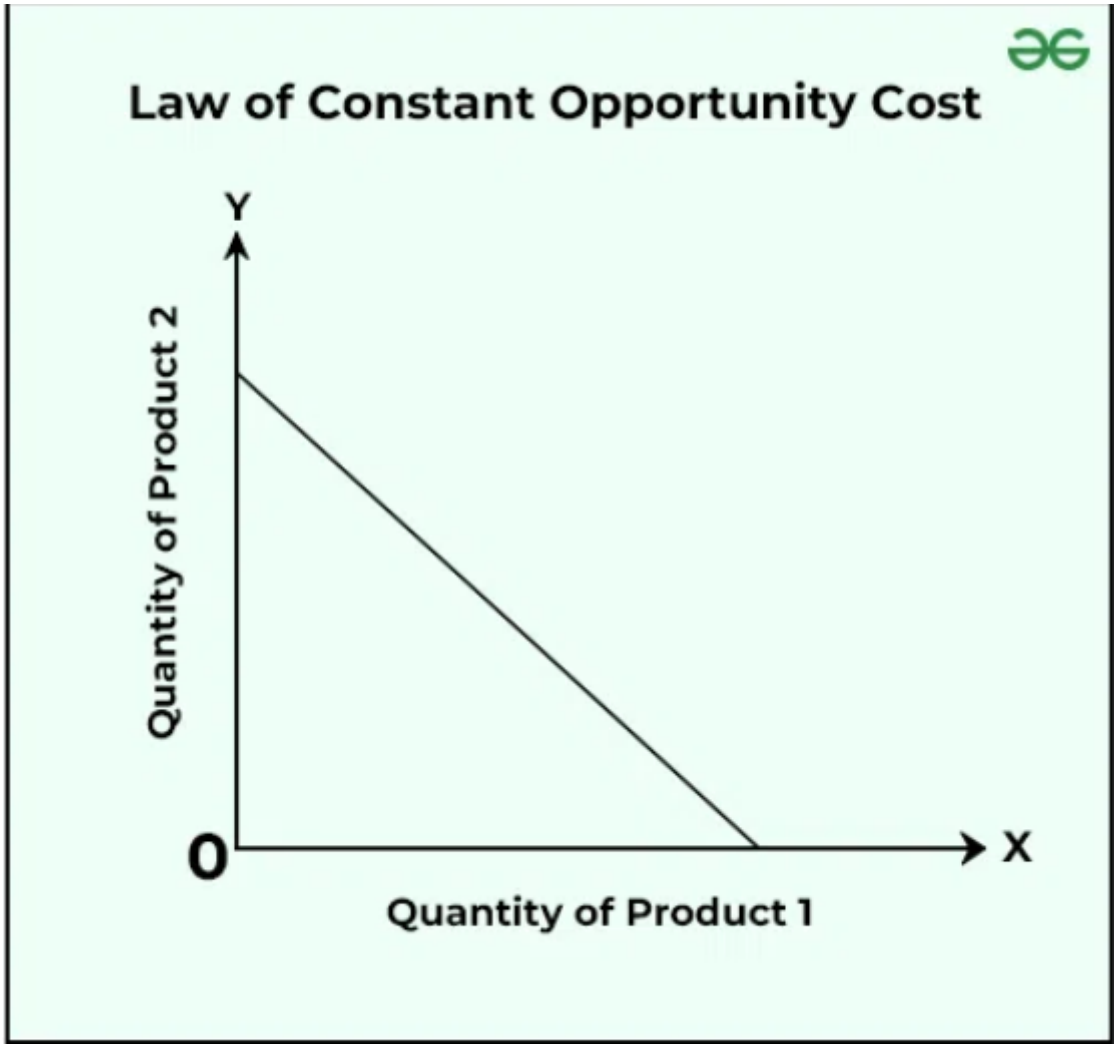
- The financial or nonfinancial cost of a choice not taken.
- At A you make 50 biscuits, 16 cheese.
- At B you make 30 biscuits, 26 cheese.

The opportunity cost from A to B is 20 biscuits.
The opportunity cost from B to A is 10 cheese.

- (Whatever number gets smaller is the opportunity cost)

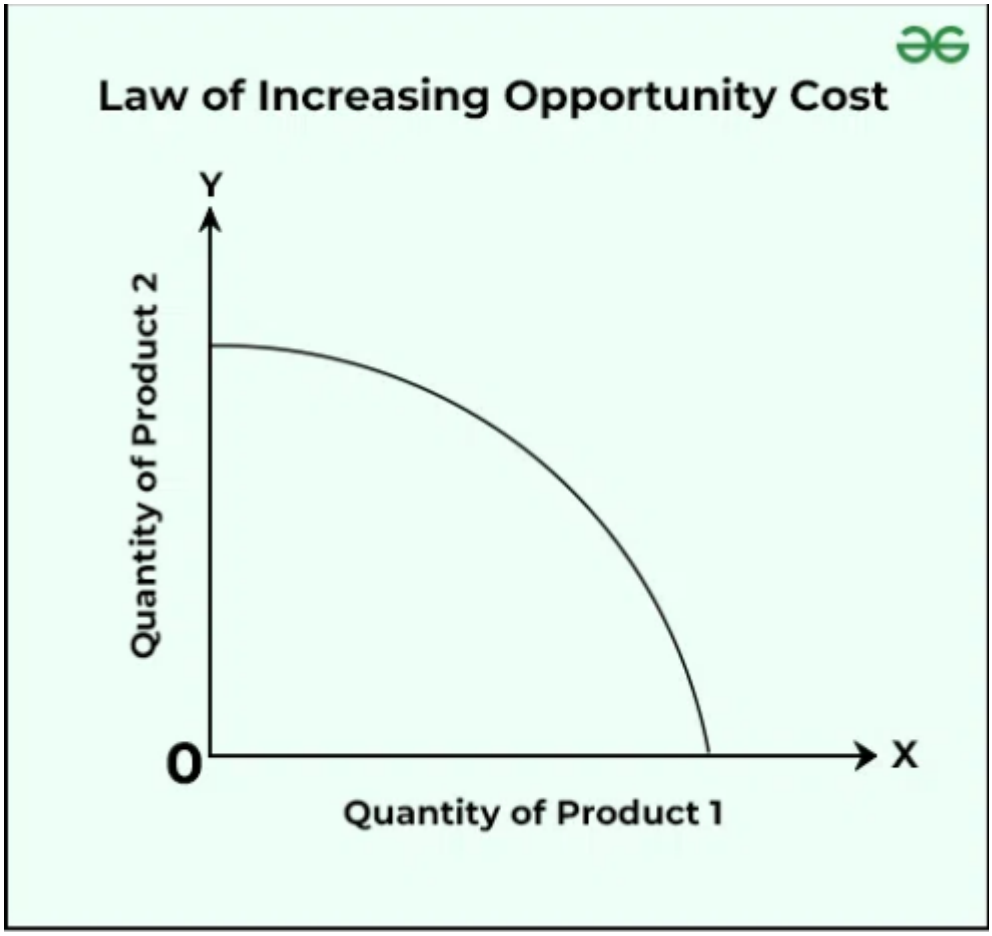
Law of Constant Opportunity Cost

- as the more of a good is produced, the opportunity cost does not change.
- The opportunity cost stays constant.
- More similar products (e.g. bicycles and tricycles) are more likely to be constant opportunity cost. The resources are very similar, and there is no extra specialization needed.



Law of Increasing Opportunity Cost

- As the more of a good is produced, the greater its opportunity cost.
- Opportunity cost does not stay constant. It increases.
- More different products (e.g. oranges and phones) are more likely to be increasing opportunity cost since the resources, specialization, and technology needed are completely different.



Zooming out...

Economic Growth is a sustained rise in output and in increase in the standard of living.

When something experiences economic growth, the production of the possibility curve moves outward, expanding the set of production and consumption.. the ability to produce a larger total output over time.

- Done via
  - increase in resources, either quantity or quality.
  - Technological advancements.

Change in demand only affects the point on the curve, it does not shift the curve. You just allocate the resources differently to prioritize a product over the other.

Only the **quality** of `labor` can shift the curve. A **reduction** of labor shifts the point within the original curve, but does not affect the curve itself.

- higher quality labor allows you to utilize the other resources **more efficiently** - so

you can use the same amount of resources to produce more.
- Firing workers does reduce the amount of labor, but the resources themselves stay the same. Remember that the PPC curve represents the **efficient use of resources.** The curve does not shift because (1) resources are unaffected (2) the curve indicates the products that can be made IF done efficiently. The point thus goes within the curve because the resources are being underutilized (and thus inefficient).
    - Don't treat `labor` as a resource - it is a means of efficiency and how resources are utilized.

1.3 Comparative Advantage and Trade

In a market economy, individuals engage in trade: they provide goods and services to others and receive goods and services in return.

An economy is **efficient** if there is no missed opportunity.

- is good.

A situation in which individuals cannot make themselves better off by doing something different is **equilibrium**.

- is best.
    - you are not only being efficient, but completely min-maxing.

Towards the goal of efficiency and equilibrium, specialization happens.

- There are gains from trade: people can get more of what they want through trade than they could if they tried to be self-sufficient.
    - depending on people that are better than you, while you main something else.
- This increase in output is due to specialization, each person specializes in the task that he or she is good at performing.

Per Unit Opportunity Cost

- Opportunity Cost / Units Gained.

Practice

*Ronald McDonald can produce 20 pizzas or 200 burgers. Papa John can produce 100 pizzas or 200 burgers.

1. What is Ronald's opportunity cost for one pizza in terms of burgers given up?
    1. 200 burgers / 20 pizzas = 1 pizza costs 10 burgers.
2. What is Ronald's opportunity cost for one burger in terms of pizza given up?
    1. 20 pizzas / 200 burgers = 1 burger costs 1/10 pizza.
3. What is Papa John's opportunity cost for one pizza in terms of burgers given up?
    1. 200 burgers / 100 pizzas = 1 pizza costs 2 burgers.
4. What is Papa John's opportunity cost for one burger in terms of pizza given up?
    1. 100 pizza / 200 burgers = 1 burger costs 1/2 pizzas.

Note that to find opportunity cost, it is "other over (the one you are finding the opportunity cost for)."

So what?

Ronald has a **comparative advantage** in the production of burgers (lower opportunity cost)

Papa John has a **comparative advantage** in the production of pizza. (lower opportunity cost)

An individual has a comparative advantage in producing a good or service if the opportunity cost of producing the good or service is lower for that individual than for other people.

An individual has an absolute advantage in producing a good or service if he or she can make more of it with a given amount of time and resources.

- Absolute applies to efficiency of production.

So, Papa John has absolute advantage in pizzas (100 pizzas vs. 20 pizzas) and neither company has an absolute advantage in burgers (200 burgers vs 200 burgers)

The above was an "output" problem. With a set of x resources, how many pizzas and burgers can each company produce?

Now, we will go over "input" problems. Instead of x resources and how much they can produce, it is instead **how many resources it takes to produce 1 of the product**.

usually in time.

The table shows the # of hours it takes to produce a ton of sausage and a ton of computers.

	Sausage	**Computers**
Canada	2	6
UK	10	10

1. Which country has an absolute advantage in sausage?
    1. Because it is # of hours to make, the lowest number is the absolute advantage. It takes them the shortest amount of time (and thus resources) to make sausages, so they can produce the most sausages in x amount of time.
2. What is Canada's opportunity cost for producing one computer?
    1. Unlike the output questions, finding per unit opportunity cost for input questions is the opposite. It is "other under (the product you are finding the opportunity cost for)".
    2. Thus, (6 computers) / (2 sausages) = one computer costs 3 sausages.
        1. Don't get confused. Remember that the units are "time to produce", so the lower number is actually the product the country is making more of.
3. Which has a comparative advantage in computers and which has a comparative advantage in sausage?
    1. Canada - Sausage. UK - Computer.
        1. Again, the strategy is opposite of the output problems. The pair is the lower product. (20 < 60).
4. Terms of trade that can benefit both countries?
    1. 1 computer for 2 tons of sausage.
        1. First find which country is importing and which country is exporting.
            1. In order for the importer to benefit, the trade has to be cheaper (lower) than their opportunity cost. Since they would just make it themselves if it was more expensive to trade.
            2. In order for the exporter to benefit, the trade has to be more expensive (greater) than their opportunity cost. Since they are making what they are exporting.
        2. Set the references of both to the same: compare both countries' opportunity costs of computer or opportunity costs of sausage.
        3. The answer is a number between them.
            1. Canada: 1 computer costs 3 sausages. (importer of computer), (exporter of sausage)

    1. Canada wants a computer to cost less than 3 sausages.
2. UK: 1 computer costs 1 sausage. (exporter of computer), (importer of sausage)
    1. UK wants more than 1 sausage per computer.

0.01 Microeconomics

0.1 Microeconomics Unit 1

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1.1 Basic Economic Concepts

1.2 Production Possibility Curve

1.3 Comparative Advantage and Trade

1.6 Marginal Analysis and Consumer Choice

1.7 Cost-Benefit Analysis

1.6 Marginal Analysis and Consumer Choice

Marginal analysis is making decisions based on increments.

You will continue to do something as long as the marginal benefit is greater than the marginal cost.

Marginal Utility

- the added satisfaction a consumer gets from having one more unit of a good or service.
    - Measured in “utils”
- Subtract (n - (n-1)) of the utility to get marginal utility/benefit.
    - where n is the # of product consumed.

You stop consuming a product where the marginal utility/benefit equals the marginal cost. (or the closest it gets before the MB < MC)

You want to keep doing it/buying it/consuming it until marginal utility = marginal cost because there is untapped potential.

Law of Diminishing Returns

As more of a product is consumed, total utility increases at a diminishing rate, reaches a maximum and then declines.

- only applies to the same good. i.e. eating different cakes resets the utility. Eating the same cake over and over has diminishing returns.

Marginal Utility Per Dollar & Utility Maximization

MU/P = marginal utility per dollar.

Utility Maximization

- Limited money, look for a combination that maximizes utility.
  - Purchase goods with highest MU/P (if there is equal MU/P, choose the cheaper one) until out of money.

Example

Theresa consumes both bagels and toy cars.

Quantity of Bagels	Marginal Utility from Bagels (utils)	Quantity of Toy Cars	Marginal Utility from Toy Cars (utils)
1	8	1	10
2	7	2	8
3	6	3	6
4	5	4	4
5	4	5	3
6	3	6	2

(a) The table above shows Theresa's marginal utility from bagels and toy cars.

(i) What is her total utility from purchasing three toy cars?

(ii) Theresa's weekly income is \$11, the price of a bagel is \$2, and the price of a toy car is \$1. What quantity of bagels and toy cars will maximize Theresa's utility if she spends her entire weekly income on bagels and toy cars? Explain your answer using marginal analysis.

- i.) 10 + 8 + 6 = 24 utils.
- ii.) First thing we need to do is calculate the MU/P of all products and their quantities.

Quantity	MU from Bagels	MU/P from Bagels	MU from Toy Cars	MU/P from Toy Cars
1	8	4	10	10
2	7	7/2	8	8
3	6	3	6	6
4	5	5/2	4	4
5	4	2	3	3
6	3	3/2	2	2

There are two different methods of maximizing utility.

1. Just go down the list from highest MU/P to lowest until you run out of money.
2. Find MU/Ps that match between the products.
    1. i.e. both bagels and toy cars have an instance where MU/P = 4, where MU/P = 3, and where MU/P = 2.
    2. These ensure proper breakpoints between combinations.
    3. If the first breakpoint does not work, keep going. You had more money than expected! Har har har!
3. Answer: 3 bagels, 5 toy cars.

1.7 Cost-Benefit Analysis

The total cost of doing something is the value of all things given up to do that thing (explicit or implicit)

Explicit costs

- Direct out-of-pocket costs
  Implicit Costs
- Value of the next best thing

Overarching question: Is the total benefit greater than or equal to the total cost?

Note that the total benefit of a decision really depends on the person making the decision - each person's willingness to pay is different. Satisfaction in itself is

completely subjective.