What is Pareto Efficiency?

Worksheet

Pareto efficiency is an allocation where it is impossible to improve one person's welfare without reducing another's. It does not mean equal or fair—just that no wasteful reallocation is possible.

Questions

1. Pareto efficiency means…
A) everyone gets equal goods
B) no one can be better off without hurting others
C) the economy is fair
D) all goods are used

2. If an economy wastes resources, it is…
A) Pareto efficient
B) Pareto inefficient
C) neutral
D) optimal

3. Two allocations can both be Pareto efficient if they…
A) distribute goods equally
B) distribute goods differently
C) waste nothing
D) make everyone equal

4. A country is Pareto efficient when…
A) everyone is rich
B) all gains from trade are exhausted
C) taxes are zero
D) growth is maximum

5. Alice has 10 apples and 0 books. Bob has 0 apples and 10 books. They both want both goods. Is the current allocation Pareto efficient?

6. After trading, Alice has 6 apples and 4 books. Bob has 4 apples and 6 books. Both are content. Is this Pareto efficient?

7. An economy wastes 30% of crop output. Is it Pareto efficient?

8. Define: What is Pareto efficiency?

9. Define: Is Pareto efficiency the same as fairness?

10. Define: Can an economy have multiple Pareto-efficient allocations?

Answer Key

1. B) no one can be better off without hurting others — Pareto efficiency is about waste elimination, not fairness or equality.

2. B) Pareto inefficient — Waste = unexploited gains → someone can be helped without hurting others → inefficient.

3. B) distribute goods differently — Multiple unequal allocations can all be efficient; each exhausts gains from trade.

4. B) all gains from trade are exhausted — Efficiency means no wasted resources; growth and fairness are separate questions.

5. Alice: apples good, books bad (wants books) Bob: books good, apples bad (wants apples) They can trade: Alice gives some apples to Bob for books. Both can be made better off. Current allocation is Pareto INEFFICIENT — reallocation helps both.

6. Alice is happy with her bundle. Bob is happy with his bundle. Any trade would leave one worse off: — If Alice trades apples for books, she loses apples (worse for her). — If Bob refuses, Bob is worse off. Allocation is Pareto EFFICIENT — no further beneficial trade.

7. If output is wasted, resources are not being used optimally. Wasted crops could be redistributed to make someone better off. No one needs to be worse off if we just use the wasted resources. The economy is Pareto INEFFICIENT.

8. An allocation where no one can be made better off without making someone else worse off.

9. No. An allocation can be Pareto efficient but highly unequal. Efficiency ≠ equity.

10. Yes—there can be infinitely many efficient allocations, each with different distribution of resources.