

The Economics of the Cosmos

Space Economics · Answer Key · 12 Questions

1. Which economic principle explains the rapidly decreasing cost of launching payloads into Low Earth Orbit due to technological maturity and reusable rocket systems?

A) Economies of scale

- B) Diminishing marginal utility
- C) Gresham's Law
- D) The Laffer Curve

2. In the context of the 1967 Outer Space Treaty, what is the legal economic status of celestial bodies like the Moon and Mars?

A) Private property

B) Common heritage of mankind

- C) State-owned monopolies
- D) Publicly traded assets

3. What is the primary economic barrier to the commercial asteroid mining of Platinum Group Metals?

A) Lack of supply on Earth

B) High capital expenditure for delta-v requirements

- C) Global bans on precious metal extraction
- D) Monopolization by the International Space Station

4. The 'Kessler Syndrome' represents an economic negative externality. What does it describe?

A) The depreciation of satellite assets

B) The cost of deep-space telecommunications

C) A cascade of orbital debris increasing insurance and operational costs

D) The taxation of extra-atmospheric mining operations

5. Which economic model is often cited regarding the high upfront investment and long-term societal payoff of NASA's Apollo program?

A) Public Good Theory

- B) Keynesian Multiplier
- C) Malthusian Trap
- D) Comparative Advantage

6. When considering the exploitation of Helium-3 on the Moon, what economic term describes the transition from non-renewable energy sources to this potential fusion fuel?

A) Energy substitution

- B) Deflationary spiral
- C) Liquidity preference
- D) Structural unemployment

7. What is the economic classification of GPS data provided by the United States government, given that it is non-excludable and non-rivalrous?

- A) Private good
- B) Club good

C) Public good

- D) Common-pool resource

8. SpaceX's pricing strategy for the Falcon 9 launch vehicle is intended to capture market share by undercutting established launch providers. What is this practice called?

A) Predatory pricing

- B) Cost-plus pricing
- C) Price discrimination
- D) Limit pricing

9. Regarding the 'Space Economy', which sector currently constitutes the largest portion of global space-related revenue?

- A) Human spaceflight
- B) Deep space exploration

C) Satellite telecommunications services

- D) Planetary defense systems

10. The economic concept of 'scarcity' applied to orbital slots is managed by which international body to prevent signal interference?

A) International Telecommunication Union (ITU)

- B) United Nations Office for Outer Space Affairs (UNOOSA)
- C) Federal Communications Commission (FCC)
- D) European Space Agency (ESA)

11. What economic phenomenon occurs when the fixed costs of maintaining a permanent human presence on Mars are spread across a larger population over time?

A) Average cost reduction

B) Inflationary pressure

C) Market saturation

D) Supply-side shock

12. In the 'Space Race' of the 1960s, the economic competition between the US and USSR functioned as a catalyst for which type of technological development?

A) Dual-use technology

B) Open-source software

C) Market-driven consumer electronics

D) Regulated utility infrastructure