

1. Why is Relativity so named?
2. Give an example in everyday life of a cause followed by its effect (causality). Now imagine that effect occurring before its cause (violation of causality). Suggest a paradox that could result from such a violation of causality.
3. Explain why in Special Relativity anything that has mass when at rest cannot reach the speed of light.
4. On space-time diagrams with x,y space and t time axes, sketch the world-line of:
 - a) a single beam of light moving in the x -space direction (not a flash that sends beams in all directions).
 - b) an object accelerating in the x -space direction
 - c) an object moving in a circle in the x,y space directions