

18 Multiple choice questions

1. the theory of relativity restricted to inertial frames of reference
 - a. relativity
 - b. special relativity
 - c. simultaneity
 - d. orbital decay

2. the force on an object due to it being in a gravitational field
 - a. weight
 - b. orbit
 - c. relativity
 - d. re-entry

3. long-wavelength members of the electromagnetic spectrum
 - a. projectiles
 - b. orbit
 - c. radio waves
 - d. time travel

4. where two or more events that are simultaneous for one observer are not necessarily simultaneous for observers in different inertial frames of reference
 - a. relativity
 - b. trajectory
 - c. simultaneity
 - d. time travel

5. a theory that describes matter, space and time and how they relate to each other; that the laws of physics are the same for all inertial observers
 - a. re-entry
 - b. relativity
 - c. weight
 - d. special relativity

6. when low altitude orbiting objects such as satellites and discarded "space junk" re-enter the Earth's atmosphere and ultimately burn up
 - a. simultaneity
 - b. relativity
 - c. orbit
 - d. orbital decay

7. an accelerated frame of reference in which inertial forces are present
 - a. time travel
 - b. universal gravitation
 - c. non-inertial frame of reference
 - d. slingshot effect

8. the phenomenon where time in a moving frame appears to be slower relative to a stationary observer
 - a. time dilation
 - b. simultaneity
 - c. time travel
 - d. twin paradox

9. experiments "conducted" entirely in a person's brain, as used by Einstein in his special theory of relativity
 - a. projectiles
 - b. slingshot effect
 - c. thought experiments
 - d. simultaneity

10. a method by which a spacecraft can be accelerated by use of the planets, relying on conservation of angular momentum
 - a. time travel
 - b. slingshot effect
 - c. weight
 - d. simultaneity

11. the use of time dilation to allow trips to distant planets
 - a. time dilation
 - b. simultaneity
 - c. time travel
 - d. radio waves

12. the return of a spacecraft into the Earth's atmosphere and subsequent descent to Earth
 - a. weight
 - b. relativity
 - c. trajectory
 - d. re-entry

13. a paradox of special relativity involving twins
 - a. radio waves
 - b. twin paradox
 - c. time dilation
 - d. time travel

14. the motion of an object under the influence of a vertical force only, such as an object thrown in the air
 - a. projectiles
 - b. time dilation
 - c. projectile motion
 - d. trajectory

15. the path of a projectile
 - a. orbit
 - b. trajectory
 - c. re-entry
 - d. projectiles

16. the path followed by an object travelling in space
 - a. re-entry
 - b. relativity
 - c. orbit
 - d. weight

17. the law that two or more masses attract each other
 - a. special relativity
 - b. projectile motion
 - c. universal gravitation
 - d. time dilation

18. any objects moving under the influence of gravity only
- a. projectiles
 - b. re-entry
 - c. projectile motion
 - d. trajectory