

Physics 1214 - General Physics II

Quiz #24 - 2013.04.10

Solutions

1. What makes a frame of reference an inertial frame of reference?

An inertial frame of reference is one which moves with constant, or zero, velocity.

2. A space-faring individual takes a round-trip from Earth to a star and back again with velocity approaching the speed of light. From the point of someone on Earth, who has experienced more time: a person on Earth, or the space-faring individual?

Using the Earth as a point of reference, a person on Earth will have aged more.

3. You wish to move a couch through a right-angle corner turn in a hallway. Will accelerating the couch to a really high velocity help?

If you can get the speed of the couch close to the speed of light, the couch will experience length contraction!