

# Physics Interactive Quiz : Relativity

Name: \_\_\_\_\_

#	4	question	Answer	0	<--score
# 1	0.6	c is the velocity of a 100 kg space probe 6 meters long. How many meters per second is this?		0	
# 2	0.6	What is the apparent mass of this probe to a stationary observer?		0	
# 3	0.6	What is the mass of the probe as seen by the probe?		0	
# 4	0.6	What is the length of the probe to a stationary observer?		0	
# 5	0.6	What is the length of the probe as seen by itself?		0	
# 6	8	hours displays on a clock on the probe. How many seconds is this?		0	
# 7	8	How many seconds will appear to pass to an observer who is not moving?		0	
# 8	400	milliseconds is the lifetime of a newly discovered beta boson. How many milliseconds will such a particle exist if it passes the observer at 0.95 C?		0	
# 9	400	If the original mass of the beta boson were $1 \text{ e}^{-31}\text{kg}$ , what would be the mass of the particle at this speed to an observer standing still?		0	
# 10	400	What would the mass be if it sped up to $0.99c$ ?		0	

**Extra Credit:** Explain the difference between special relativity and general relativity