

PHYS 110 - Things You Need to Know – Part 2

1	Definition of acceleration	
2	Velocity along the “x” axis is calculated using (trig function)?	
3	The acceleration of gravity on Earth = ? (both metric and US Standard)	
4	Standard metric measure of acceleration	
5	What is uniform velocity?	
6	US standard measure of acceleration	
7	Velocity along the “y” axis is calculated using (trig function)?	
8	Gravity is acceleration, but not all acceleration is ?	
9	1 “G” = (both metric and US Standard)	
10	In a wave, velocity = ?	
11	In a wave, if frequency increases, wavelength ?	
12	Greek symbol for wavelength	
13	Definition of Doppler Effect	
14	What happens to the frequency of a wave if the wave source is approaching the observer?	
15	What happens to the wavelength of a wave if the wave source is receding from the observer?	

16	What happens to the velocity of a sound wave if the wave source is approaching the observer?	
17	What is the role of the medium in a mechanical wave?	
18	What did Edwin Hubble discover?	
19	What are photons and what is one of the ways they are created?	
20	What is "red shift?"	
21	What does the Hubble Law establish in the relationship between distances and recessional velocities of galaxies?	
22	Do receding galaxies move <i>through</i> space? Why or why not?	
23	Where did Albert Michelson go to college?	
24	Albert Michelson was the first American to win _?_	
25	What is the Luminiferous Ether?	
26	What did the Michelson-Morley experiment disprove?	
27	What is the First Postulate of Special Relativity?	

28	What is the Second Postulate of Special Relativity?	
29	What is the factor used to calculate distortions in both space and time at relativistic velocity?	
30	What happens to time in an object moving at a relativistic velocity relative to a stationary observer?	
31	What happens to the length of an object moving at a relativistic velocity relative to a stationary observer?	
32	What happens to the mass of an object moving at a relativistic velocity relative to a stationary observer?	
33	According to General Relativity, what is gravity?	
34	Why are space and time combined as "spacetime" in relativity?	
35	What is escape velocity?	
36	What is at the center of a black hole?	
37	According to the math, what is the density of a singularity?	
38	What is the event horizon of a black hole?	

39	What is the Schwarzschild radius of a black hole?	
40	How is “escape velocity” related to the definition of a black hole?	
41	What is “mass defect”?	
42	What happens to a portion of the mass in protons and neutrons as they combine to form atoms?	
43	What are the four fundamental forces in the universe?	1. 2. 3. 4.
44	What theory best describes the Strong Nuclear Force?	
45	What theory best describes Gravity?	
46	What theory best describes Electromagnetism?	
47	What theory best describes the Weak Nuclear Force?	
48	The Strong Nuclear Force is associated with _?_	
49	The Weak Nuclear Force is associated with _?_	
50	Electromagnetism is associated with _?_	
51	What naturally occurring phenomenon brings General Relativity and Quantum Physics into conflict, and why?	

52	What theory may serve to unify General Relativity and Quantum Physics?	
53	What is the basic proposition of String Theory?	
54	Originally, String Theory proposed ___?___ dimensions	
55	What became a major problem with String Theory, and how was it resolved?	
56	What is the weakness of String Theory?	
57	What is the strength of String Theory?	