Physics 100 Name: _____

Practice Quiz #2: Newton's Laws

1. The first table, below, is a timeline detailing a parachuter's descent from an airplane. Use the timeline and your knowledge of physics to **complete the second table**. **<u>You will only be graded on your answers in the white cells.</u>**

Time	Event
0s	Parachuter steps out of plane
20s	Parachuter reaches a first terminal velocity of 58m/s
75s	Parachuter pulls chute cord. Chute deploys.
80s	Parachuter reaches a second terminal velocity of 4m/s
700s	Parachuter lands

Don't forget proper units!

Time	Parachuter Mass	Parachuter Weight	Air Resistance (plus direction)	F_{net} (plus direction)	Acceleration (direction)	Speed
0s	50 kg					
16s			400 N Upward			50m/s
72s						
76s			900N Upward			41m/s
500s						

Force Problems and Diagrams: Solve these problems by drawing diagrams showing all of the individual forces.

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10. A 6kg box is sliding with a velocity of 5m/s. The force of friction acting on the block. The block's acceleration is 3m/s^2. If a person is pushing the block with a force of 30N, what is the force of friction that is acting on the box? **Draw the box and the ground, and all of the forces that are acting on the box. Use the correct names of the forces.**

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11. A student has a mass of 80kg. He is standing on a bathroom scale in an elevator, and the scale reads 560N. What is the student's acceleration? **Draw the student, the elevator, and the scale, and all of the forces that are acting on the student. Use the correct names of the forces.**