

Time	Event
0s	Parachuter steps out of plane
10s	Parachuter reaches a first terminal velocity of -55m/s
90s	Parachuter pulls chute cord. Chute deploys.
98s	Parachuter reaches a second terminal velocity of -3m/s
500s	Parachuter lands

Time	Parachuter Mass	Parachuter Weight	Force of Drag	Net Force	Acceleration	Velocity
0s	100kg	-980N	0N	-980N	-9.8 m/s ²	0 m/s
5s	100kg	-980N	500N Upward	-480N	-4.8 m/s ²	-35 m/s
80s	100kg	-980N	980N	0N	0 m/s ²	-55 m/s
97s	100kg	-980N	1200N Upward	220N	2.2 m/s ²	-5 m/s
300s	100kg	-980N	980N	0N	0 m/s ²	-3 m/s

Problems:

1. What is the mass of an astronaut who weighs 600 pounds on the surface of Jupiter, where $g_{\text{Jupiter}} = 24.8 \text{ m/s}^2$?