

**Problem statement** An alien spaceship is found. A major part of the spaceship is a thin metal bar which is 120 meters long (metric aliens) with a cross-section of 1 square centimeter. The bar is heavy and has varying density. A metallurgist samples of the bar at 20 meter intervals, and finds the density of the samples (in grams per cubic centimeter).

Meter mark	Density	
0	30.4	
20	...	Data lost. (Stolen by aliens?)
40	46.5	
60	65.8	
80	29.2	
100	52.1	
120	...	Lunch break.

Estimate the total weight of the alien object. Is it likely that one person could lift it?