

# Homework

## Problem 1.

The Great Pyramid of Giza weighs  $5.7 \times 10^7$  Newtons here on the Earth. What would be its weight if it was transported to Mars (leaving aside the feasibility of such a venture)? The free fall acceleration on Mars is  $3.7 \text{ m/s}^2$ .

## Problem 2.

A boy with a mass of 40 kilograms needs to cross a frozen lake. He encounters a section with thin ice that can only support a force of 150 N. To safely cross, how many helium balloons, each providing a lifting force of 0.005 N, does the boy need to carry?