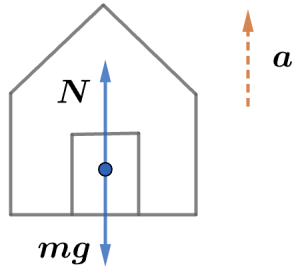# 2009 F=ma Exam: Problem 4

Kevin S. Huang

The force of the spaceman on the spacecraft is equal to the normal force on the spaceman. By Newton's 2nd law, we have

$$N - mg = ma$$
$$N = m(g + a)$$

Since we are given $a = 5g$,

$$N = 6mg = 6(80\,\text{kg})(10\,\text{m/s}^2) = 4800\,\text{N}$$

so the answer is $\boxed{\text{A}}$.