1. Mr Aslam has a mass of 80 kilograms. His apartment is on the second floor, 600cm up from ground level. How much work does he do against gravity each time he climbs the stairs to his apartment?

$m = 80\,kg$ $h = 600\,cm = 6\,m$	*Solution.*
$A - ?$	The work, which is done against gravity, for climbing the stairs is equal to the work, which is done by the gravitational force, by module, but this work must be taken with the opposite sign:

$$A = -A_{gr} = -m\vec{g}\cdot\vec{s} = -m(-gs) = mgh, \quad \boxed{A = mgh}.$$

We took into account the fact that the acceleration of the gravity $\vec{g}$ and the movement $\vec{s}$ are of opposite directions.

Let check the dimension: $[A] = kg \cdot \frac{m}{s^2} \cdot s = N \cdot s = J$.

Let evaluate the quantity: $A = 80 \cdot 9.81 \cdot 6 = 4.71 \cdot 10^3\,(J)$.

Answer: $4.71 \cdot 10^3\ J$.