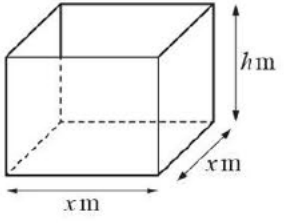
6 Hugo constructs an **open** water tank with a square base and vertical rectangular sides.

Each edge of the square base is x m and the height of each rectangular side is h m.



When the tank is full it contains $4\,\text{m}^3$ of water.

(a) Show that the external surface area, $A\,\text{m}^2$, of the tank is given by

$$A = x^2 + \frac{16}{x}.$$ **[2]**

(b) Hugo wants to make the value of A as small as possible.

(i) Determine the minimum value of A. **[4]**

(ii) Show that your value is a minimum. **[2]**