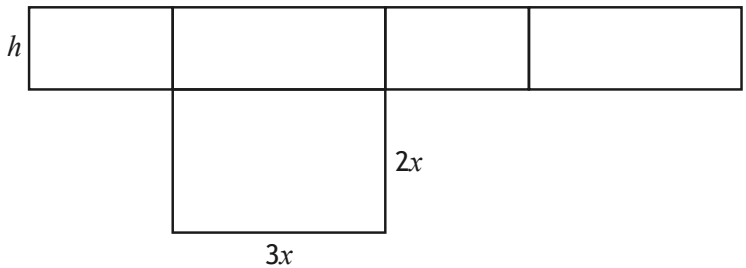
MARKS

14. A net of an open box is shown.

The box is a cuboid with height h centimetres.

The base is a rectangle measuring $3x$ centimetres by $2x$ centimetres.



(a) (i) Express the area of the net, A cm^2, in terms of h and x. **1**

(ii) Given that $A = 7200$ cm^2, show that the volume of the box, V cm^3, is given by $V = 4320x - \frac{18}{5}x^3$. **2**

(b) Determine the value of x that maximises the volume of the box. **4**