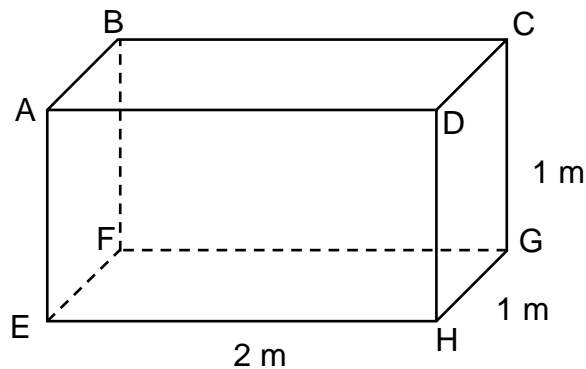


# Spicy Question #41



Calculator allowed

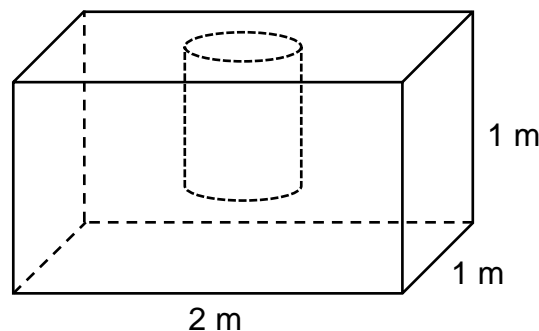


ABCDEFGH is a cuboid with a density of  $0.1 \text{ g/cm}^3$

A cylindrical hole is then cut into the face ABCD.

An example of how this could look is shown in the diagram below.

The cylinder has height  $h$  and radius  $r$ .



The cylindrical hole left behind is then filled with a metal of density  $12 \text{ g/cm}^3$

The resulting cuboid has a density of  $1 \text{ g/cm}^3$

Work out a range of possible values for  $h$ , the height of the cylinder.

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Video  
Solution



All submissions to be emailed to [1stclassmaths@gmail.com](mailto:1stclassmaths@gmail.com)

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