

9th August



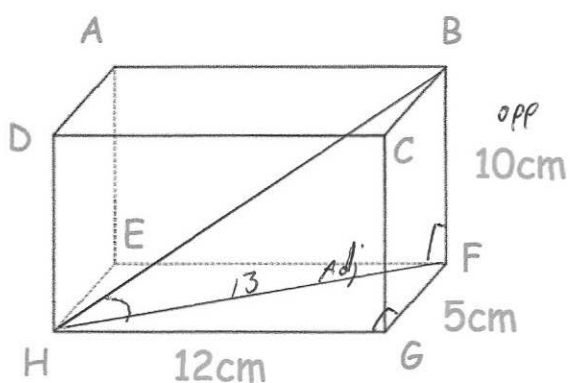
Corbettmaths

$$g(x) = 15 - x \quad h(x) = x^3$$

Solve $gh(x) = 140$

$$\begin{aligned} 15 - x^3 &= 140 \\ -x^3 &= 125 \\ x^3 &= -125 \\ x &= -5 \end{aligned}$$

ABCDEFGH is a cuboid



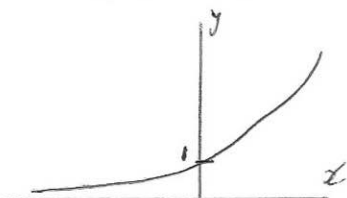
$$FH = 13 \text{ cm} \quad (5, 12, 13) \text{ triangle}$$

Calculate the length of BH

$$\begin{aligned} BH &= \sqrt{10^2 + 13^2} \\ BH &= \sqrt{269} \text{ cm} \\ \text{or} \\ BH &= 16.4 \text{ cm} \end{aligned}$$

Find the size of angle BHF

$$\begin{aligned} \tan BHF &= \frac{10}{13} \\ BHF &= 37.57^\circ \end{aligned}$$

Sketch the graph of $y = 2^x$ The n th term of a sequence is $n^2 - 10n + 30$

By using completing the square, show that every term is positive.

$$\begin{aligned} (n-5)^2 - 25 + 30 \\ (n-5)^2 + 5 \\ (n-5)^2 \geq 0 \\ (n+5)^2 + 5 \geq 0 \end{aligned}$$

QED