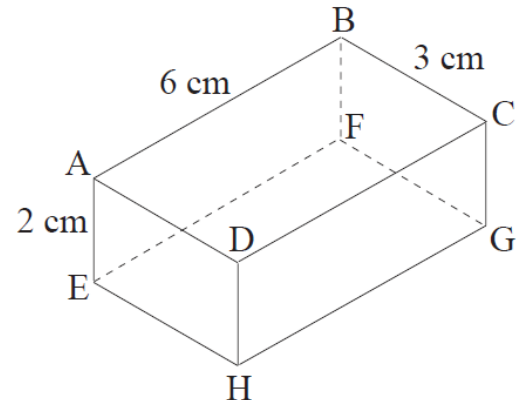


Pythagoras and trigonometry in 3D

1.

The diagram represents a rectangular box.
Given that $AB = 6$ cm, $BC = 3$ cm and $AE = 2$ cm, calculate the length of the diagonal AG .

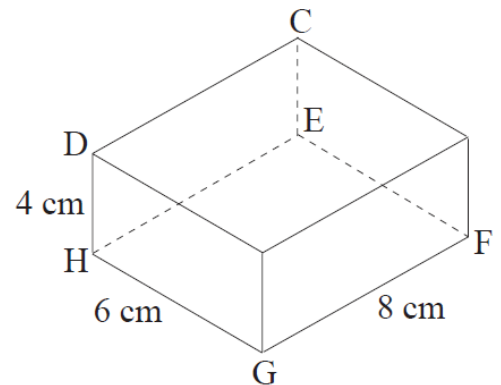


2.

A rectangular box has a horizontal base $EFGH$.
The corner D is vertically above H .

Given that $DH = 4$ cm, $HG = 6$ cm and $GF = 8$ cm, calculate

- \hat{DGH} ,
- the length of HF ,
- \hat{DFH} .



3.

The diagram shows a right triangular prism with $\hat{ABP} = 90^\circ$ and $ABCD$ lying on a horizontal table.
If $AB = 6$ cm, $AD = 8$ cm and $AP = 12$ cm, calculate

- \hat{PAB} ,
- the length of PB ,
- \hat{PDB} .

