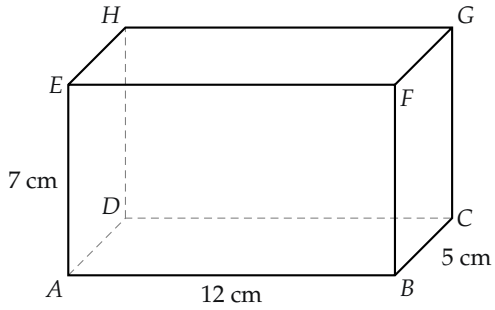
Exercise 3

Paper 2 style · Graphic display calculator

3 6 marks SL 3.1 ●●○ Typical

The diagram shows a cuboid $ABCDEFGH$ with $AB = 12$ cm, $BC = 5$ cm and $AE = 7$ cm.



(a) Find AC. **[2]**

(b) Find AG. **[2]**

(c) Find the angle between AG and the base $ABCD$. **[2]**

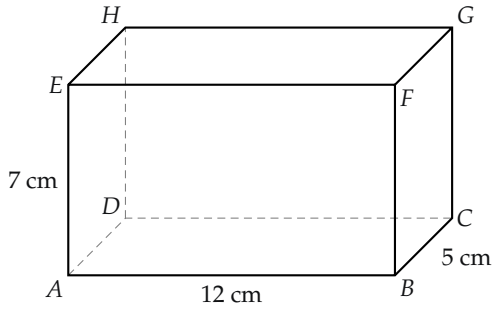
The markscheme is on the next page: try the question first. Written and verified by a practising IB mathematics teacher, produced with AI assistance; solved twice and recomputed by software. Not affiliated with or endorsed by the International Baccalaureate Organization.
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Exercise 3 — markscheme

Paper 2 style · Graphic display calculator

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(a) Find AC. **[2]**

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MARKSCHEME (a)

$AC^2 = 12^2 + 5^2$ **(M1)**

$AC = 13$ cm **A1**

Total 2 marks

MARKSCHEME (b)

$AG^2 = 13^2 + 7^2$ **(M1)**

$AG = 14.8$ cm $(\sqrt{218} = 14.7648\ldots)$ **A1**

Total 2 marks

Note Triangle ACG, right-angled at C.

MARKSCHEME (c)

$\tan\theta = \dfrac{7}{13}$ **(M1)**

$\theta = 28.3°$ $(28.3007\ldots)$ **A1**

Total 2 marks