23 The diagram shows a solid prism *ABCDEFGHIJ*

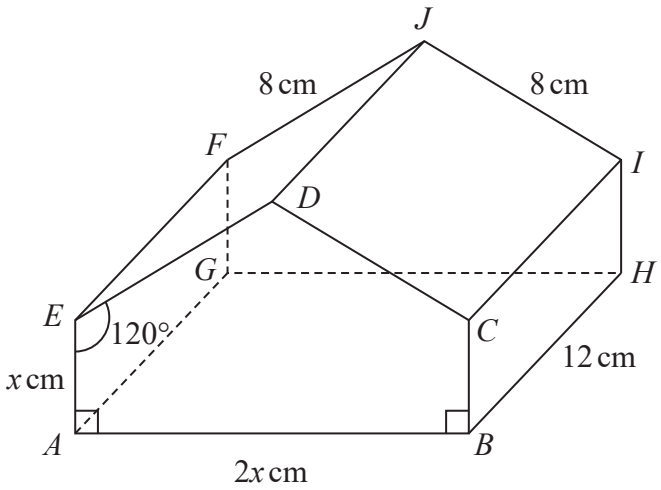


Diagram **NOT** accurately drawn

The prism is such that each cross section is a pentagon where

$AE = BC = x$ cm $\qquad AB = 2x$ cm $\qquad ED = CD = 8$ cm

angle EAB = angle $CBA = 90°$ $\qquad$ angle AED = angle $BCD = 120°$

Given that $AG = BH = EF = DJ = CI = 12$ cm

calculate the angle that AJ makes with the base $ABHG$ of the prism.
Give your answer correct to 3 significant figures.

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(Total for Question 23 is 5 marks)

Turn over for Question 24