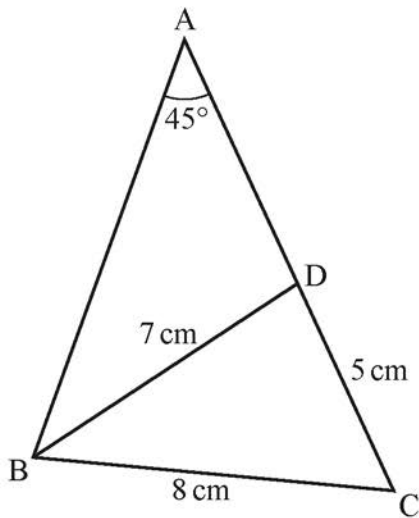


**11 In this question you must show detailed reasoning.**

The diagram shows triangle ABC, with  $BC = 8$  cm and angle  $BAC = 45^\circ$ .

The point D on AC is such that  $DC = 5$  cm and  $BD = 7$  cm.



Determine the exact length of AB.

[5]