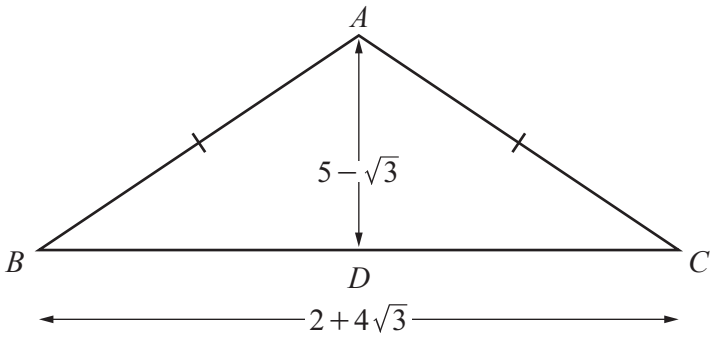
5 DO NOT USE A CALCULATOR IN THIS QUESTION.
In this question all lengths are in centimetres.



The diagram shows the isosceles triangle ABC, where $AB = AC$ and $BC = 2+4\sqrt{3}$. The height, AD, of the triangle is $5-\sqrt{3}$.

(a) Find the area of the triangle ABC, giving your answer in the form $a+b\sqrt{3}$, where a and b are integers. [2]

(b) Find $\tan ABC$, giving your answer in the form $c+d\sqrt{3}$, where c and d are integers. [3]

(c) Find $\sec^2 ABC$, giving your answer in the form $e+f\sqrt{3}$, where e and f are integers. [2]

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[Turn over