

9

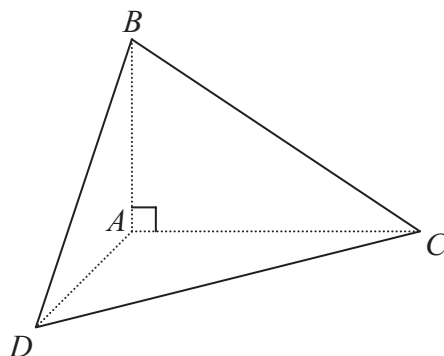
**Figure 1**

Figure 1 shows a triangular pyramid $ABCD$.

$$\angle BAC = \angle DAC = \angle BAD = 90^\circ$$

$AD = 5$ cm, $AC = 8$ cm and $AB = 6$ cm.

- (a) Find, in degrees to the nearest 0.1° , the size of $\angle BDC$.

(6)

- (b) Find, to 3 significant figures, the area of triangle BDC .

(3)

- (c) Find the area of triangle DAC .

(1)

The point E lies on CD so that AE is perpendicular to CD .

- (d) Find the exact length of AE .

(2)

- (e) Hence, or otherwise, find in degrees to the nearest 0.1° , the size of the angle between the planes DAC and BDC .

(4)

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Question 9 continued

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Question 9 continued

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Question 9 continued

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(Total for Question 9 is 16 marks)

