

8

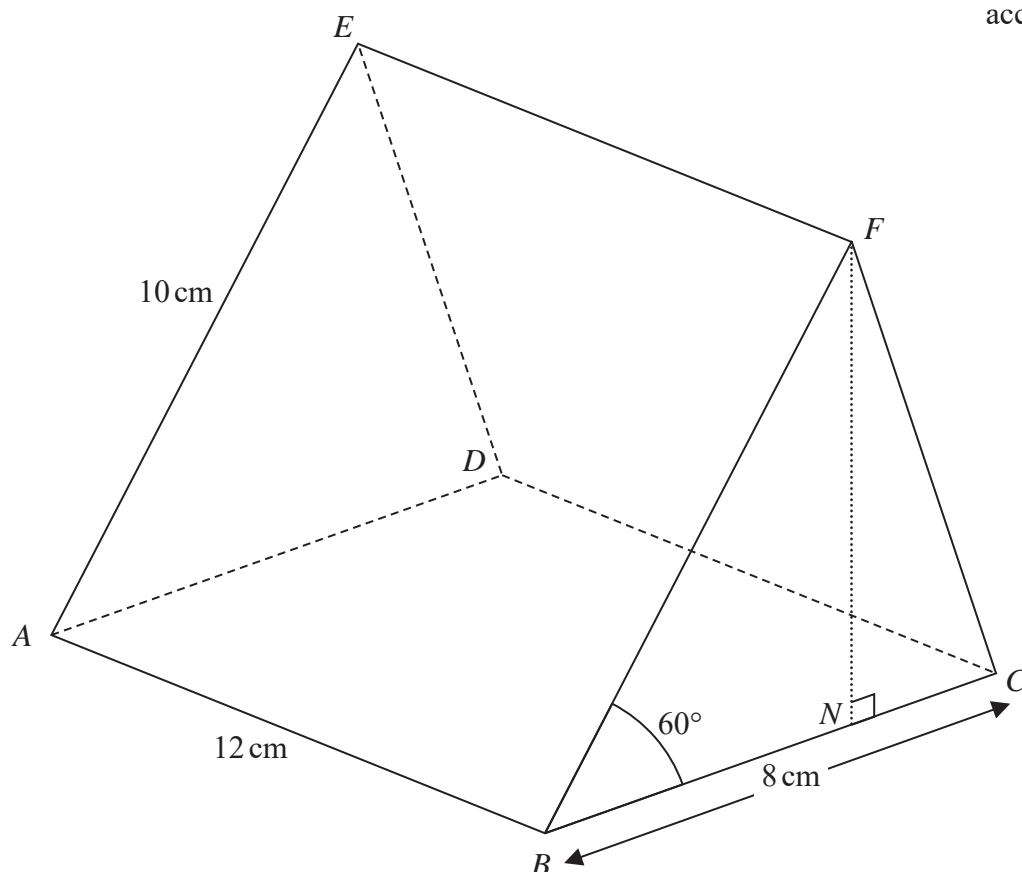
Diagram **NOT**
accurately drawn**Figure 3**

Figure 3 shows a right prism $ABCDEF$. The cross section BCF of the prism is a triangle.

$$AB = DC = 12 \text{ cm} \quad BC = AD = 8 \text{ cm} \quad BF = AE = 10 \text{ cm} \quad \angle FBC = \angle EAD = 60^\circ$$

The point N lies on BC such that FN is perpendicular to BC .

(a) Show that $BN = 5 \text{ cm}$. (2)

(b) Find, in cm to 3 significant figures, the length of EN . (3)

The midpoint of BF is X and the midpoint of FC is Y .

(c) Find, in degrees to one decimal place, the size of the angle between the plane $ABCD$ and the plane $AXYD$. (2)

(d) Find, in degrees to one decimal place, the size of the angle AYE . (6)



DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

Question 8 continued

Handwriting practice area with horizontal dotted lines.



P 6 1 8 8 3 A 0 2 3 3 6

Question 8 continued

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA



DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

Question 8 continued

Handwriting practice area with horizontal dotted lines.

(Total for Question 8 is 13 marks)

