**3**

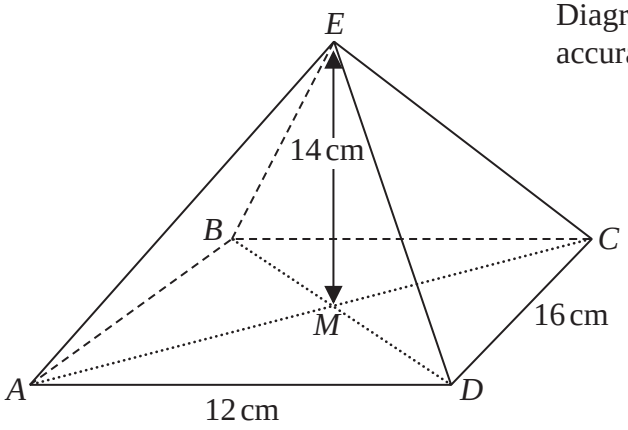


Diagram **NOT** accurately drawn

**Figure 1**

Figure 1 shows the right pyramid *ABCDE*. The base, *ABCD*, of the pyramid is a horizontal rectangle with $AD = 12$ cm and $CD = 16$ cm. The height $ME$ of the pyramid is 14 cm where $M$ is the point of intersection of the diagonals of the base.

The sloping edges, *EA*, *EB*, *EC* and *ED* of the pyramid are all of equal length.

(a) Calculate, to 3 significant figures, the length of a sloping edge.

**(3)**

Calculate, in degrees to one decimal place, the size of

(b) the angle between *AE* and the base,

**(3)**

(c) the angle between the plane *AED* and the base.

**(3)**

**Question 3 continued**

**(Total for Question 3 is 9 marks)**