10

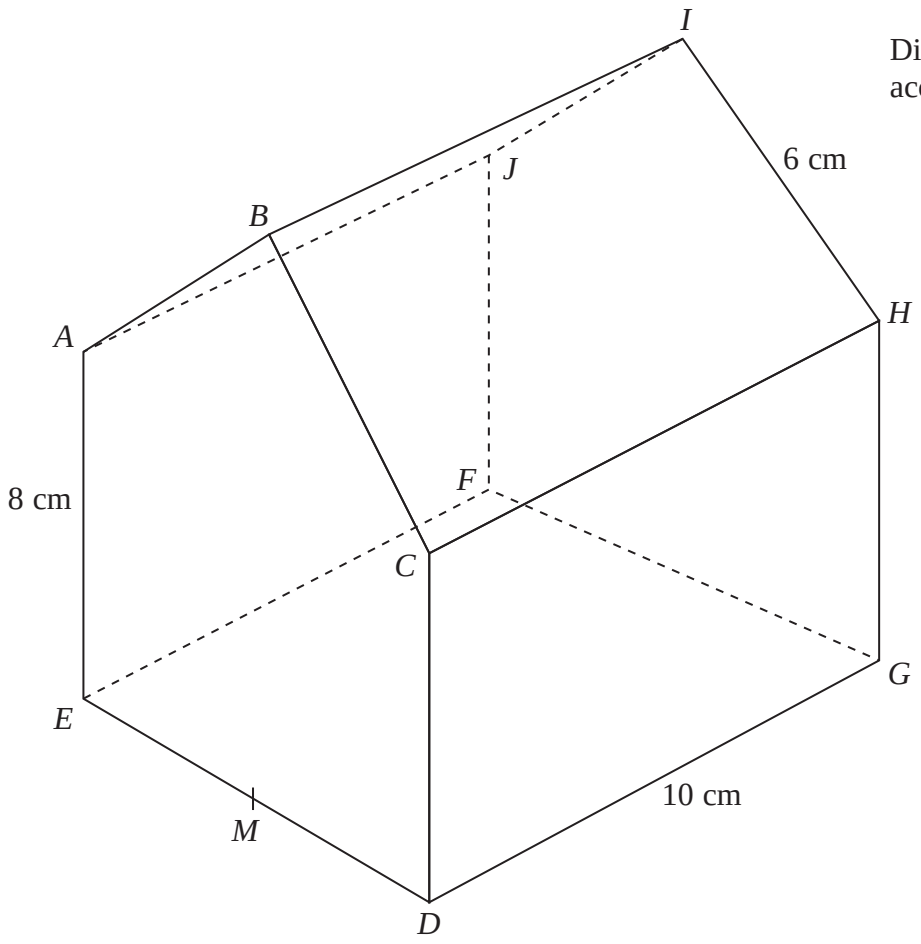

Diagram **NOT** accurately drawn

Figure 1

Figure 1 shows a right prism *ABCDEFGHIJ*. The base, *DEFG*, is horizontal and is a rectangle with $DG = EF = 10$ cm. The midpoint of *ED* is *M*.

The planes *ABCDE* and *JIHGF* are vertical.
$AE = CD = GH = FJ = 8$ cm
$AB = BC = HI = IJ = 6$ cm
Angle $BAC = 30°$

(a) Show that the length of *MD* is $3\sqrt{3}$ cm.

(2)

(b) Show that the length of *BM*, the height of the prism, is 11 cm.

(2)

(c) Find, in cm to 3 significant figures, the length *BG*.

(3)

Find, in degrees to 1 decimal place

(d) the size of the angle between the planes *BCHI* and *CHFE*,

(3)

(e) the size of the angle between the planes *ABIJ* and *BEFI*.

(5)

Question 10 continued

Question 10 continued

Question 10 continued

Question 10 continued

(Total for Question 10 is 15 marks)

TOTAL FOR PAPER IS 100 MARKS