MODULE 15
SKIM TUISYEN FELDA MATEMATIK SPM PENGAYAAN
TOPIC : PLAN AND ELEVATION
TIME : 2 HOUR

1 (a) Diagram 1(i) shows a solid right prism with the rectangular base QRXW lying on a horizontal plane.
Pentagon PQRST is the uniform cross section of the prism.
Rectangle STUY is a horizontal plane whereas rectangle PTUV is an Inclined plane.
The sides PQ and SR are vertical.

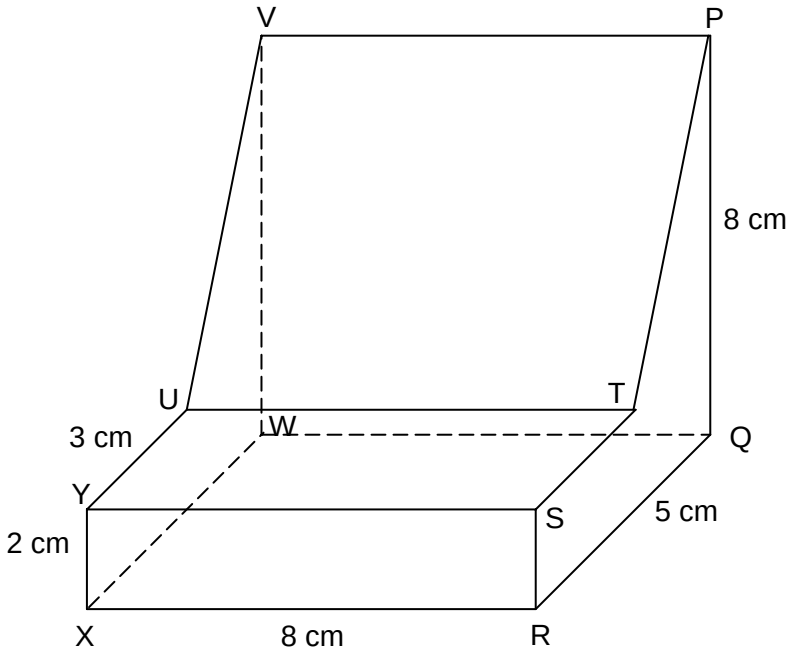


DIAGRAM 1(i)

Draw in full scale, the plan of the solid right prism.

(b) Another solid prism with uniform cross section ABC is joined to the prism in Diagram 1(i) at the vertical plane EFUYXW to form a combined solid as shown in Diagram 1(ii).
It is given that BX = 3 cm and AB = 5 cm.

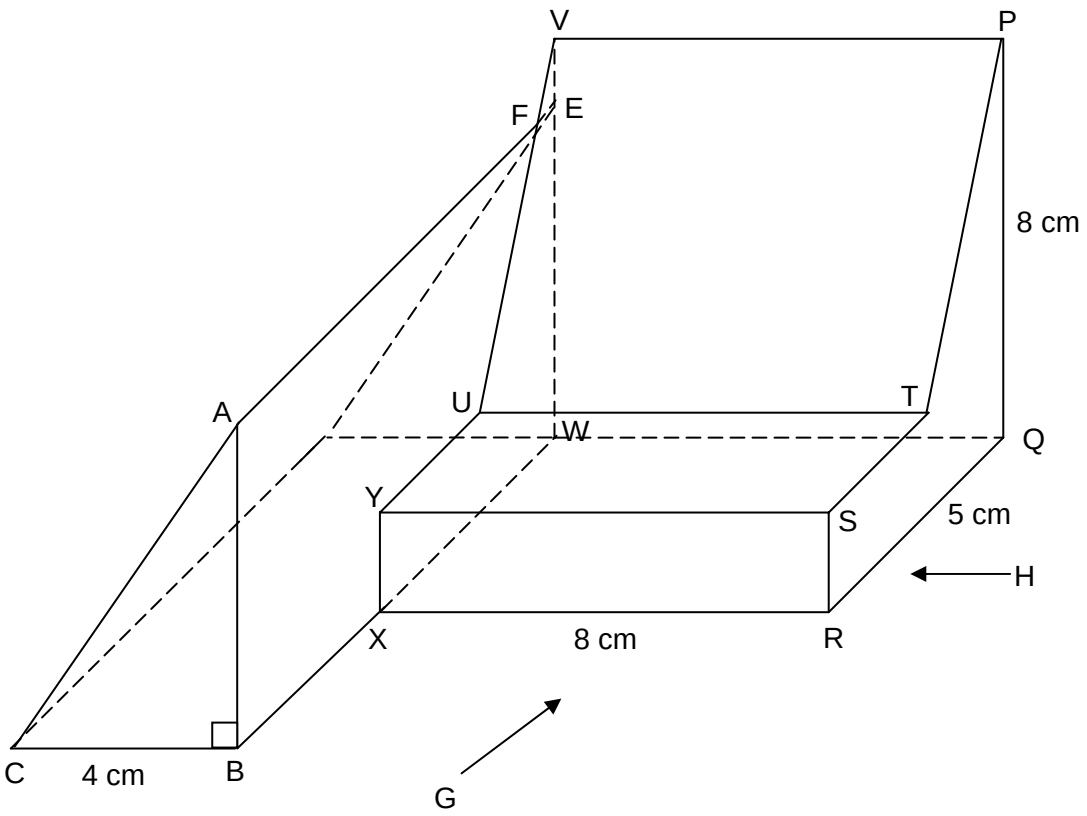


DIAGRAM 1(ii)

Draw in full scale,

(i) the elevation of the combined solid on a vertical plane parallel to XR as viewed from G.

(ii) the elevation of the combined solid on a vertical plane parallel to RQ as viewed from H.

Answer space for Question Number 1:-

1. (a)

1. (b) (i)

1. (b) (ii)

2. (a) Diagram 2(i) shows a solid prism.
Hexagon ABCDEF is the uniform cross section of the prism.
The base ALGF is on the horizontal plane.
The sides BA, CD and EF are vertical whereas the sides BC and DE are horizontal.

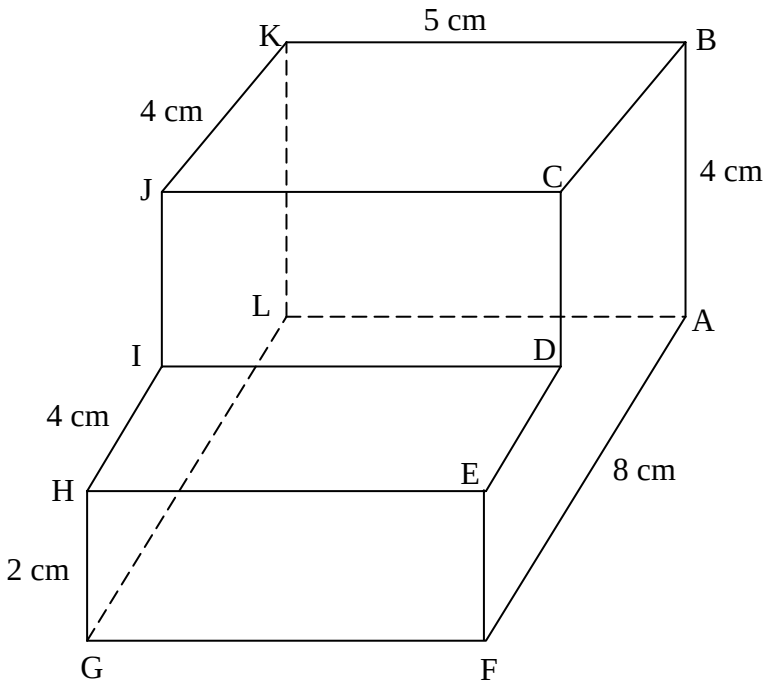


DIAGRAM 2(i)

Draw in full scale, the plan of the solid prism.

(b) A solid prism with triangle AFM as its uniform cross section is joined at the vertical plane ABCDEF to form a combined solid as shown in Diagram 2(ii).

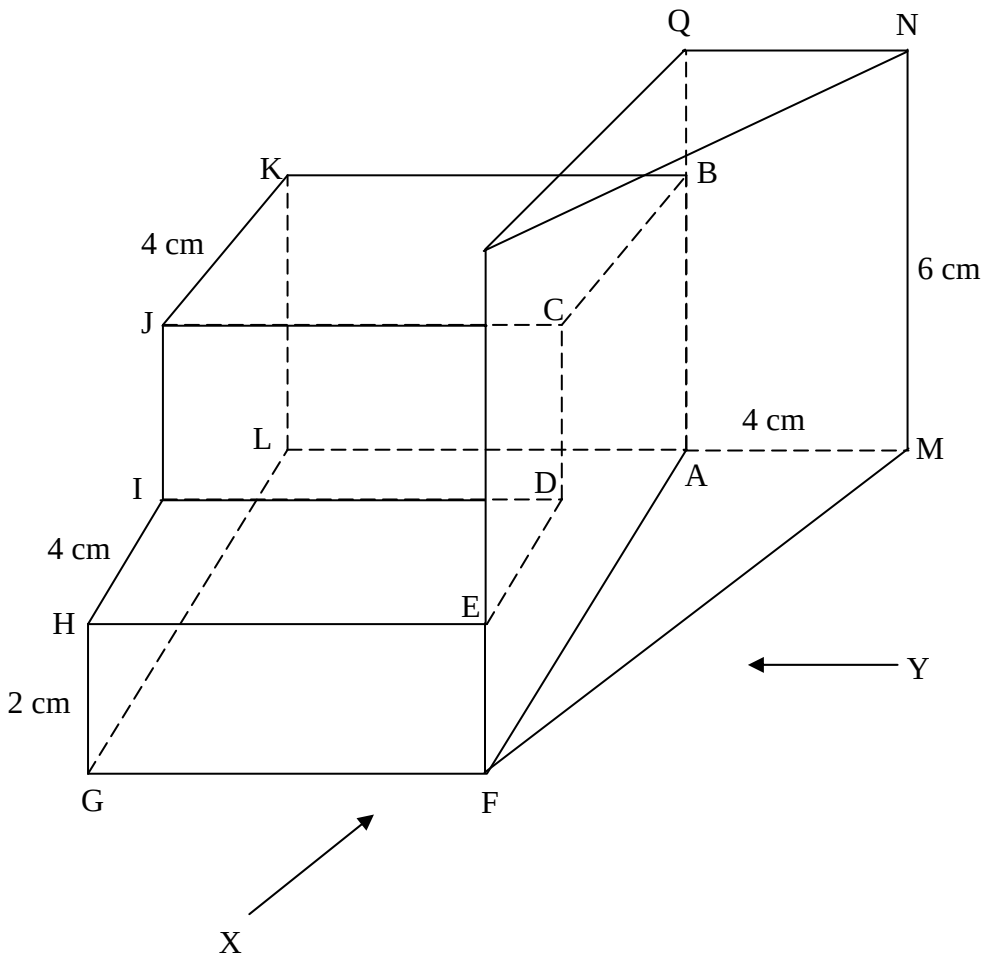


DIAGRAM 2(ii)

Draw in full scale,

(iii) the elevation of the combined solid on a vertical plane parallel to GF as viewed from X.

(iv) the elevation of the combined solid on a vertical plane parallel to AF as viewed from Y.

Answer space for Question Number 2:-

2. (a)

2. (b) (i)

2. (b) (ii)

3. (a) Diagram 3(i) shows a solid right prism.
Trapezium ABCD is its uniform cross section.
The base ADEF is on a horizontal plane.

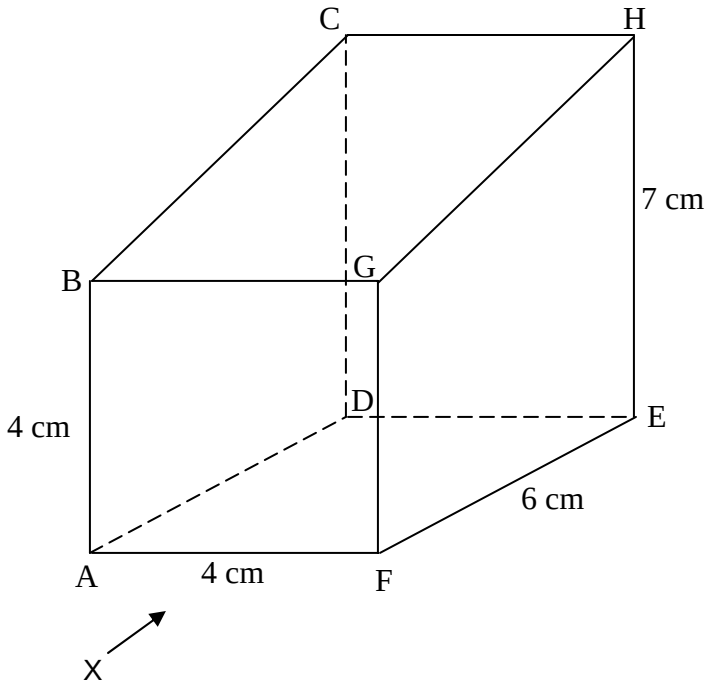


DIAGRAM 3(i)

Draw in full scale, the elevation of the solid right prism on a vertical plane parallel to AF as viewed from X.

(b) A half-cylinder with radius 3 cm and height 6 cm is joined to the solid in Diagram 3(i) at a vertical plane ABLKD to form a combined solid as shown in Diagram 3(ii).

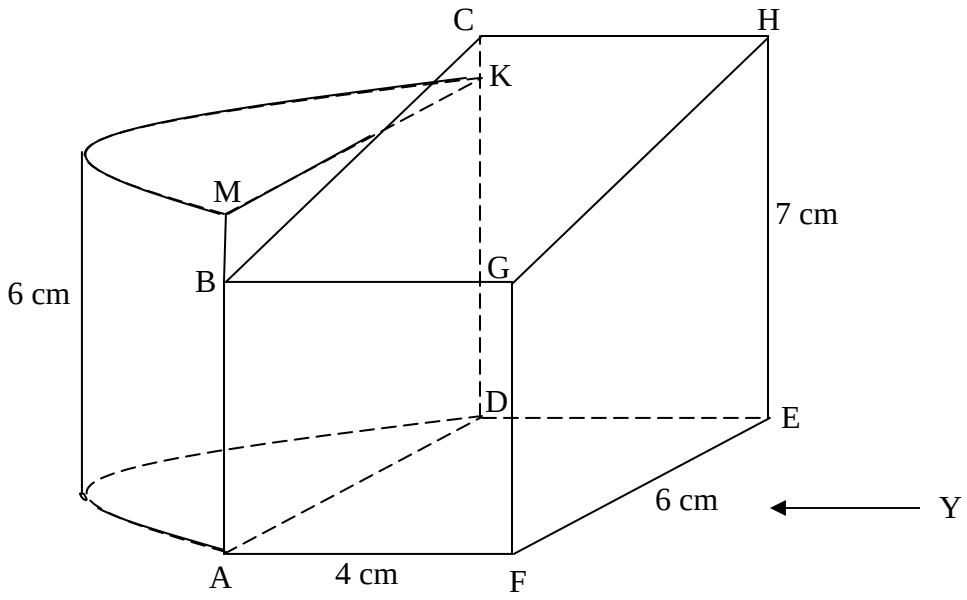


DIAGRAM 3(ii)

Draw in full scale,

(i) the plan of the combined solid,

(ii) the elevation of the combined solid on a vertical plane to EF as viewed from Y.

Answer space for Question Number 3:-

3. (a)

3. (b) (i)

3. (b) (ii)

4. (a) Diagram 4(i) shows a solid right prism.
The base BCDF is on a horizontal plane.
Triangle ABC is the uniform cross section of the prism.

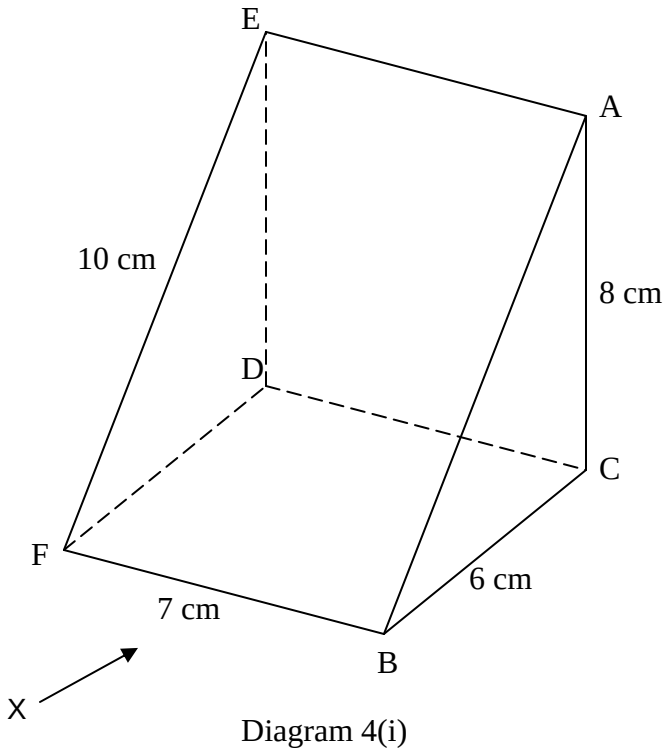


Diagram 4(i)

Draw in full scale, the elevation of the solid right prism on a vertical plane parallel to BF as viewed from X.

(b) A cuboid is joined to the solid in Diagram 4(i) at a vertical plane APGC to form a combined solid as shown in Diagram 4(ii).

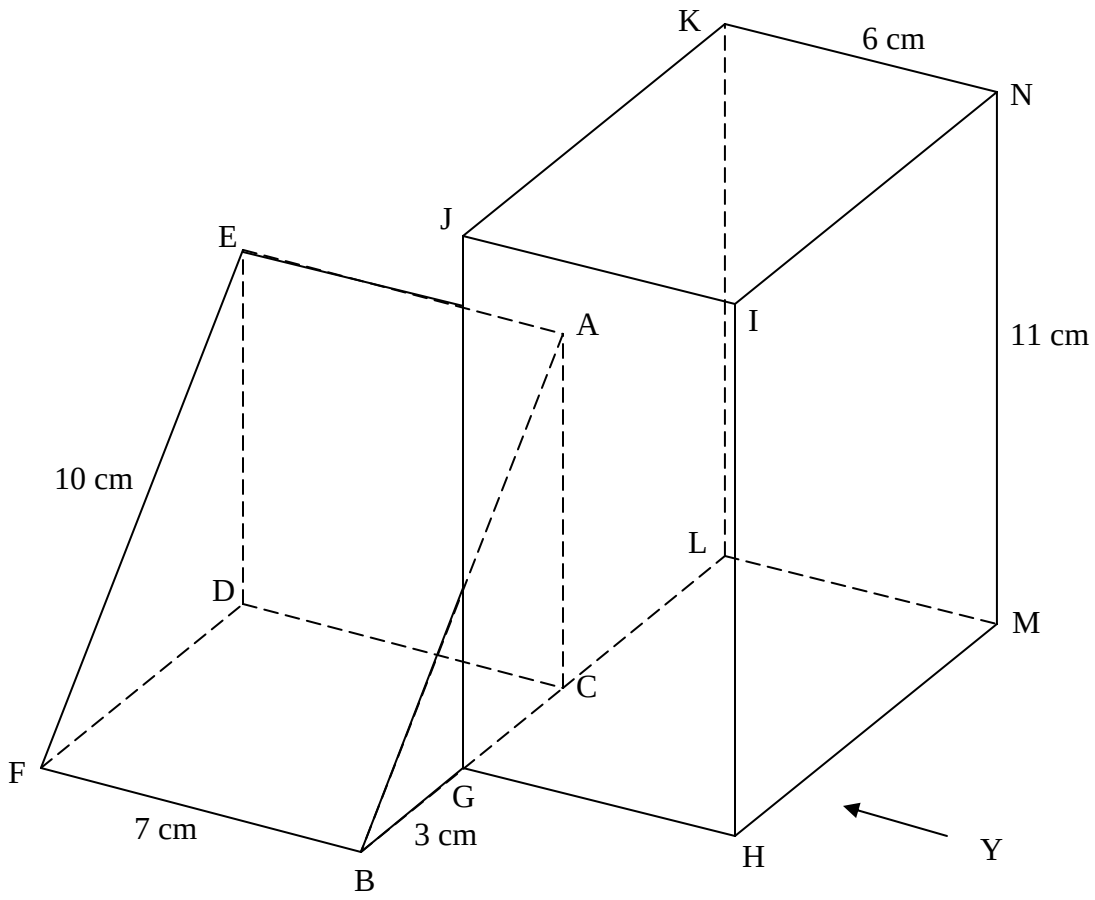


Diagram 4(ii)

Draw in full scale,

(i) the plan of the combined solid,

(ii) the elevation of the combined solid on a vertical plane parallel to HM as viewed from Y.

Answer space for Question Number 4:-

4. (a)

4. (b) (i)

4. (b) (ii)

5 (a) Diagram 5(i) shows a solid right prism.
Its rectangular base, CDEH lies on a horizontal plane.
Trapezium ABCD is the uniform cross section of the prism.
Rectangle ABGF is a horizontal plane and rectangle CBGH is inclined plane.
The sides AD and FE are vertical.

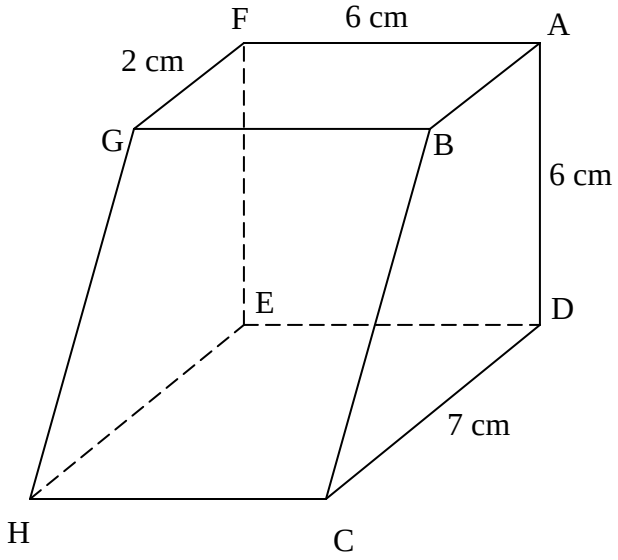


DIAGRAM 5(i)

Draw in full scale, the plan of the solid prism.

(b) A cuboid is joined to the solid in Diagram 5(i) at a vertical plane BCPS to form a combined solid shown in Diagram 5(ii).

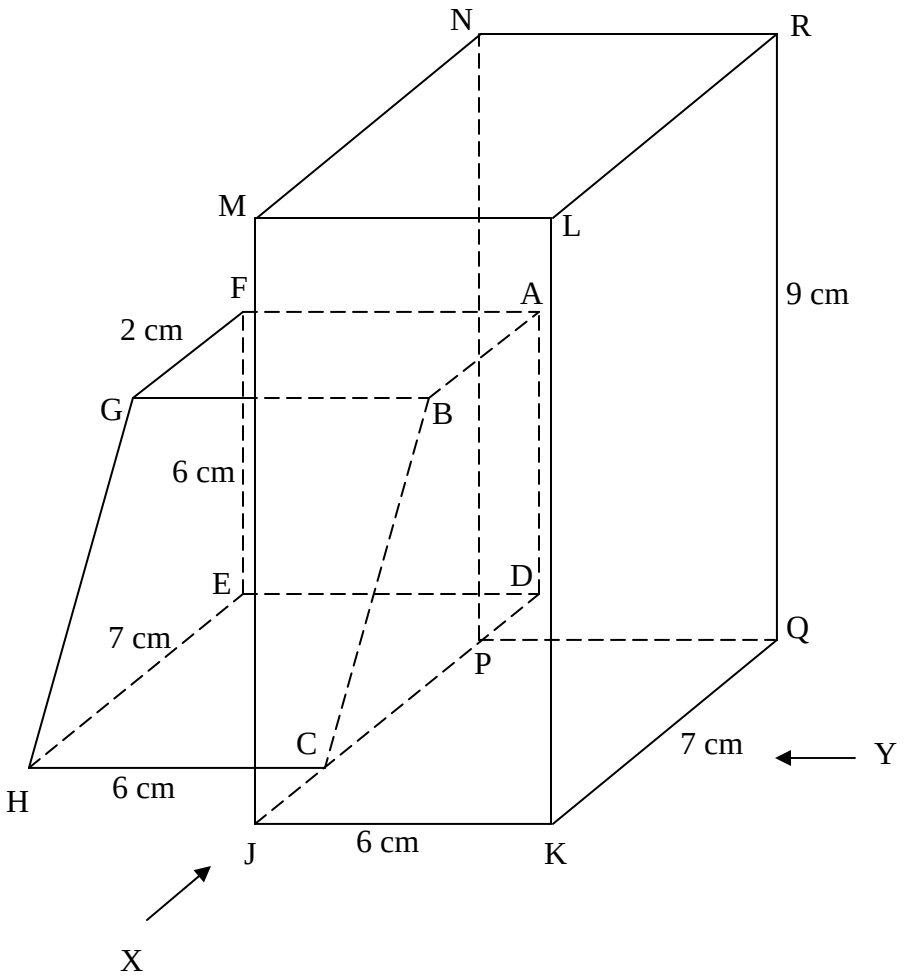


DIAGRAM 5(ii)

It is given that JC = PD = 1 cm.
Draw in full scale,

(i) the elevation of the combined solid on a vertical plane parallel to JK as viewed from X.

(ii) the elevation of the combined solid on a vertical plane parallel to KQ as viewed from Y.

Answer space for Question Number 5:-

5. (a)

5. (b) (i)

5. (b) (ii)

6. (a) Diagram 6(i) shows a solid right prism.
The base BCKJ is on horizontal plane.
EFGM and CDLK are vertical planes whereas EDLM is a horizontal plane.
The plane AFGH is inclined.
Hexagon ABCDEF is the uniform cross section of the prism.
The sides AB, FE and DC are vertical.

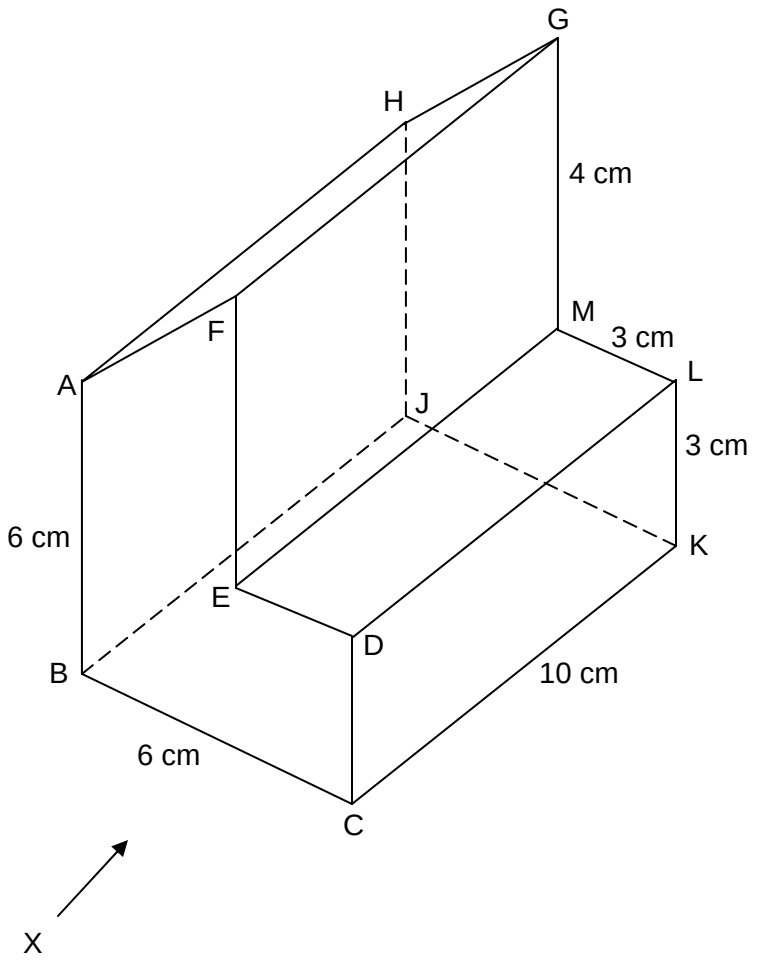


DIAGRAM 6(i)

Draw in full scale, the elevation of the solid on a vertical plane parallel to BC as viewed from X.

(b) A half-cylinder is joined to in Diagram 6(i) at the vertical plane BCQP to form a combined solid as shown in Diagram 6(ii)

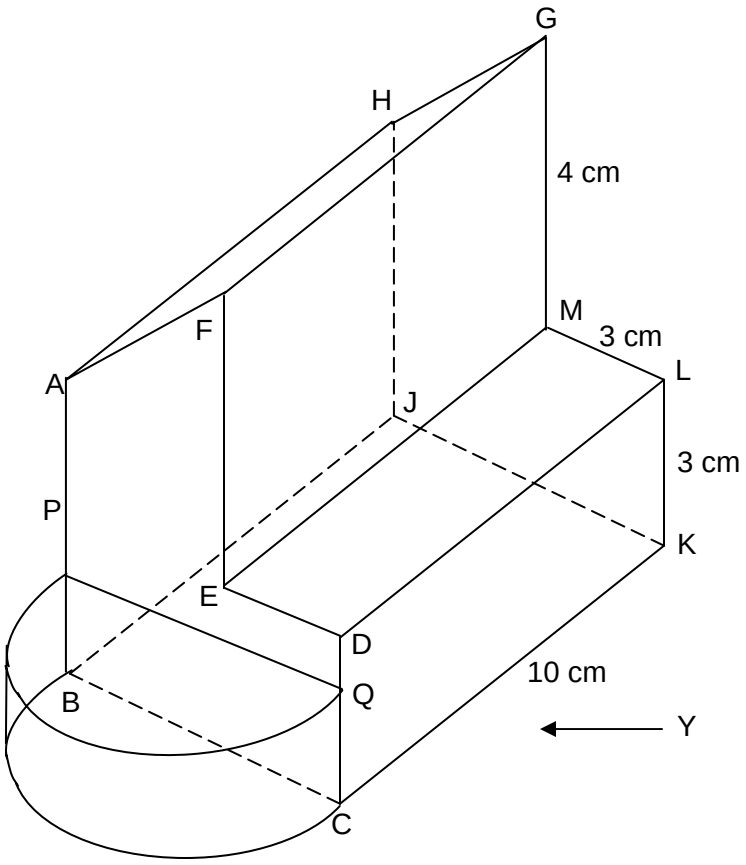


DIAGRAM 6(ii)

The height of the half-cylinder is 2 cm

Draw in full scale ,

(i) the plan of the combined solid.

(ii) the elevation of the combined solid on a vertical plane parallel to CK as viewed from Y.

Answer space for Question Number 6:-

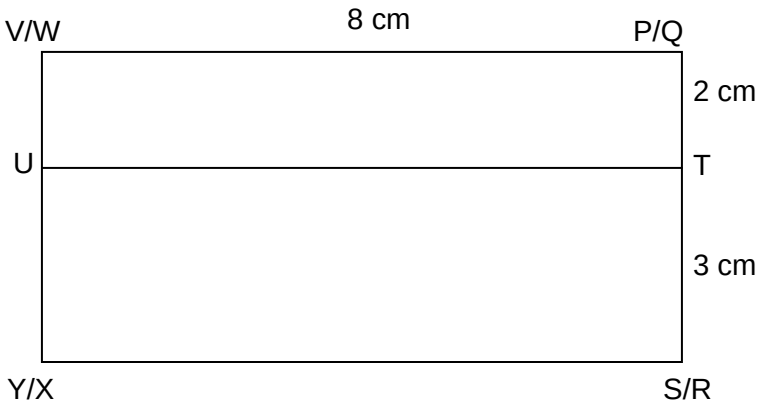
6. (a)

6. (b) (i)

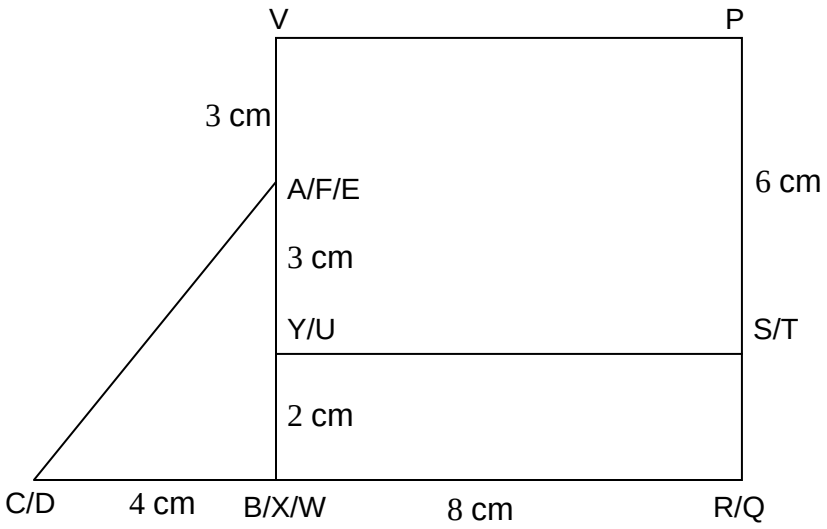
6. (b) (ii)

MODULE 15 - ANSWERS
TOPIC : PLAN AND ELEVATION

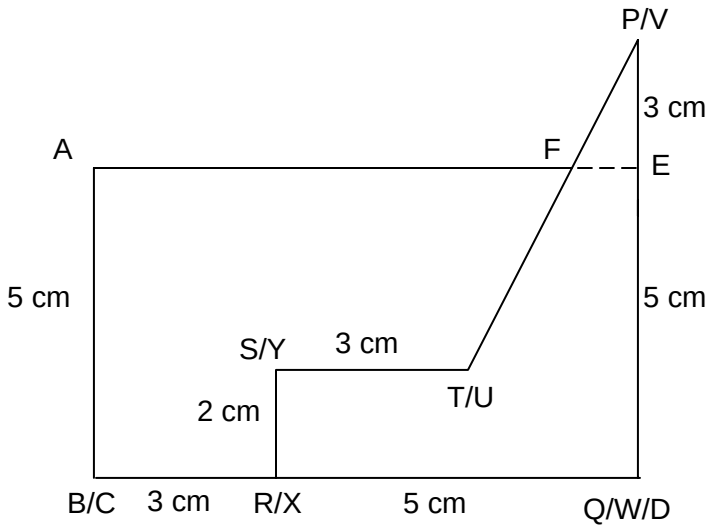
1. (a)



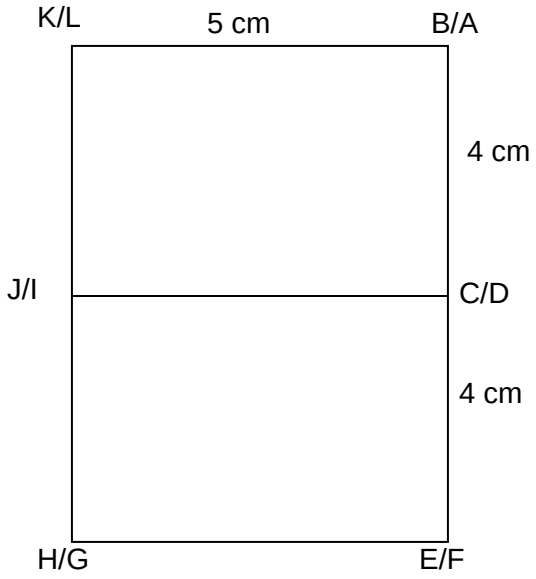
1. (b) (i)



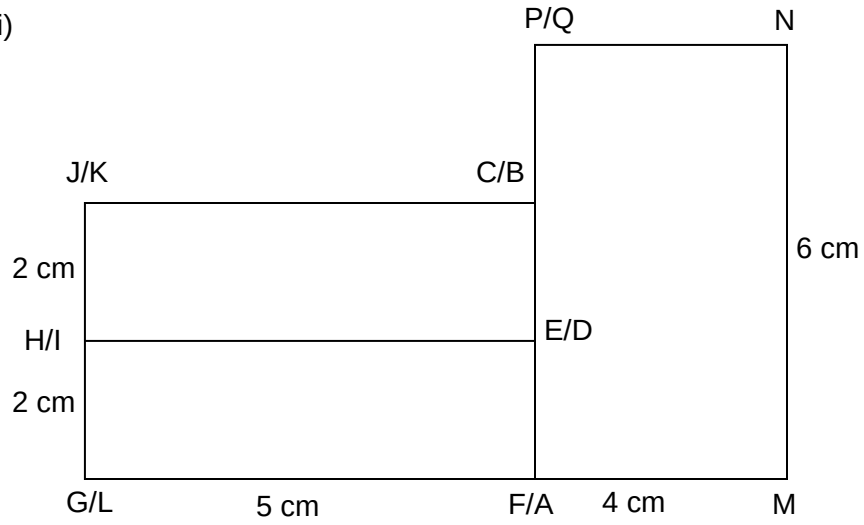
1. (b) (ii)



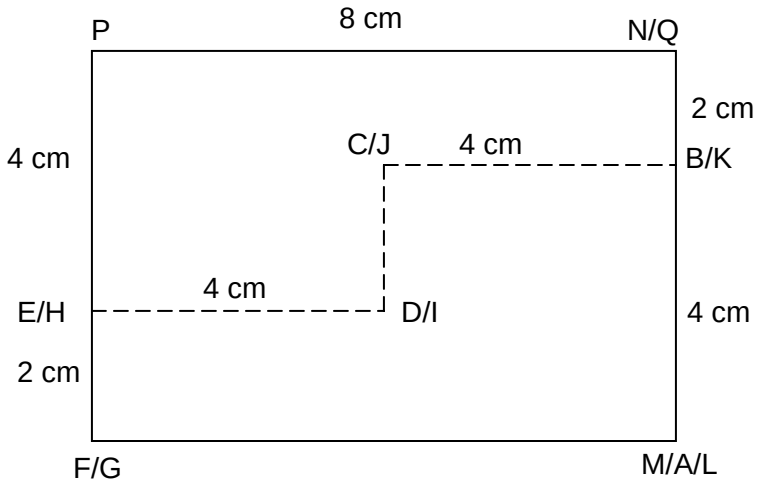
2. (a)


K/L
5 cm
B/A
4 cm
J/I
C/D
4 cm
H/G
E/F

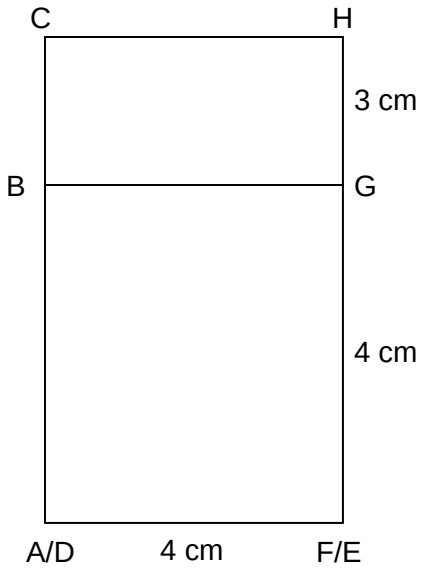
2 (b) (i)


P/Q
N
J/K
C/B
6 cm
2 cm
H/I
E/D
2 cm
G/L
5 cm
F/A
4 cm
M

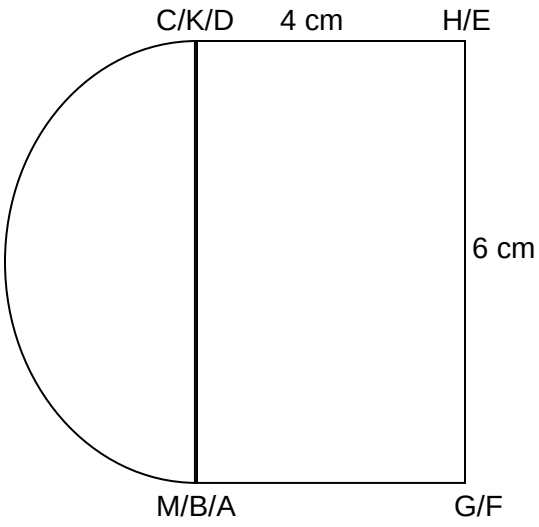
2 (b) (ii)


P
8 cm
N/Q
2 cm
C/J
4 cm
4 cm
B/K
4 cm
E/H
D/I
4 cm
2 cm
F/G
M/A/L

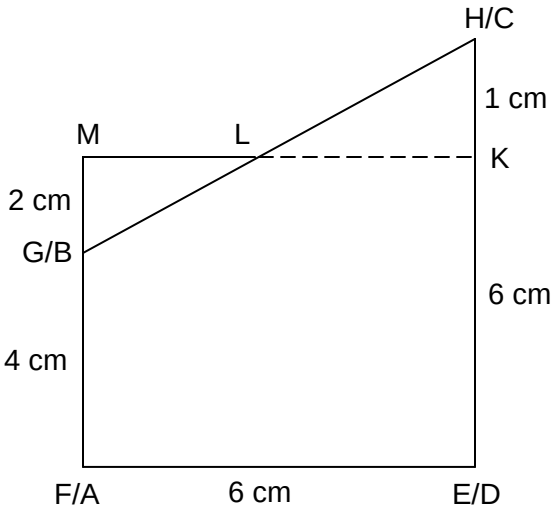
3. (a)


C
H
3 cm
B
G
4 cm
A/D
4 cm
F/E

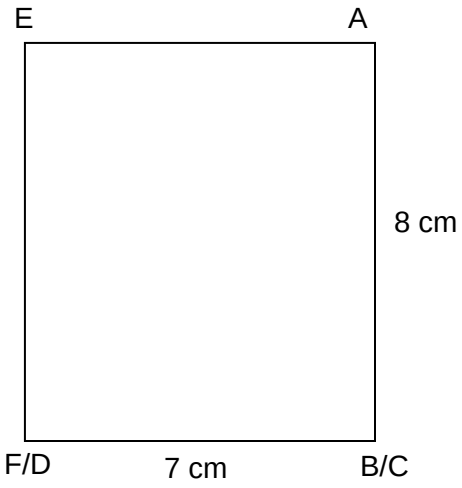
3. (b) (i)


C/K/D
4 cm
H/E
6 cm
M/B/A
G/F

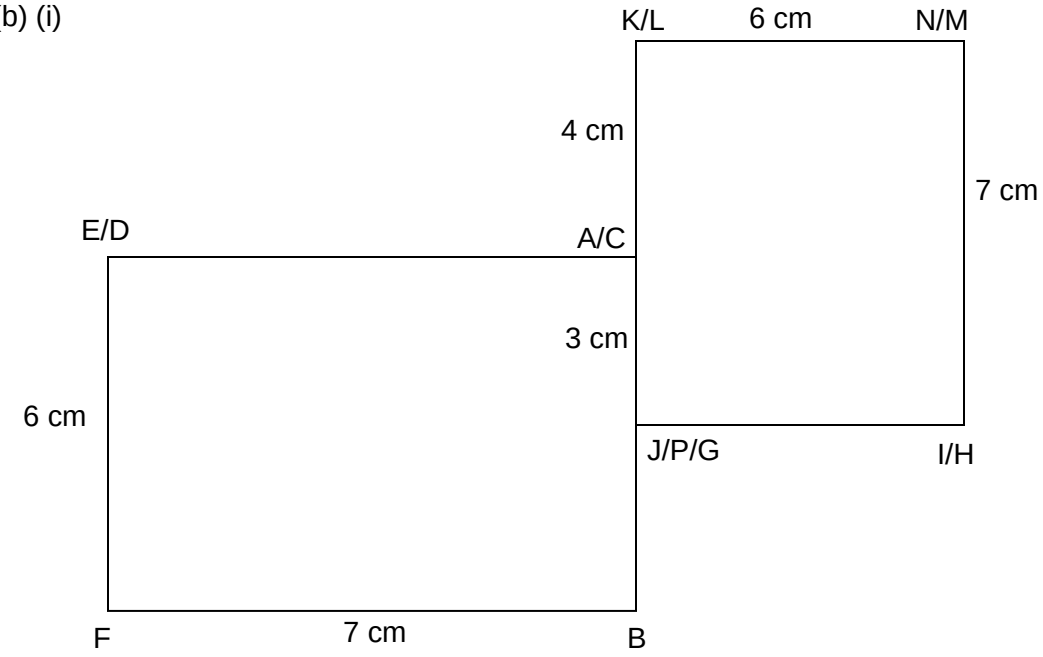
3. (b) (ii)


H/C
1 cm
M
L
K
2 cm
G/B
6 cm
4 cm
F/A
6 cm
E/D

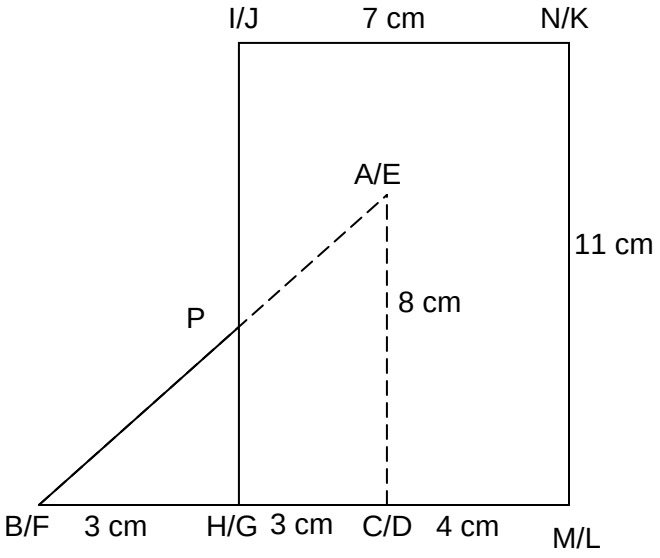
4. (a)


E
A
8 cm
F/D
7 cm
B/C

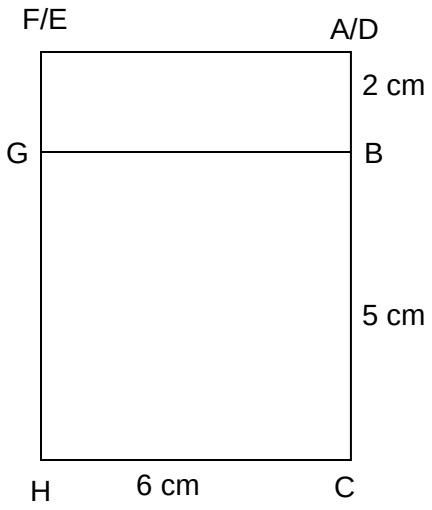
4. (b) (i)


K/L
6 cm
N/M
4 cm
7 cm
E/D
A/C
3 cm
6 cm
J/P/G
I/H
F
7 cm
B

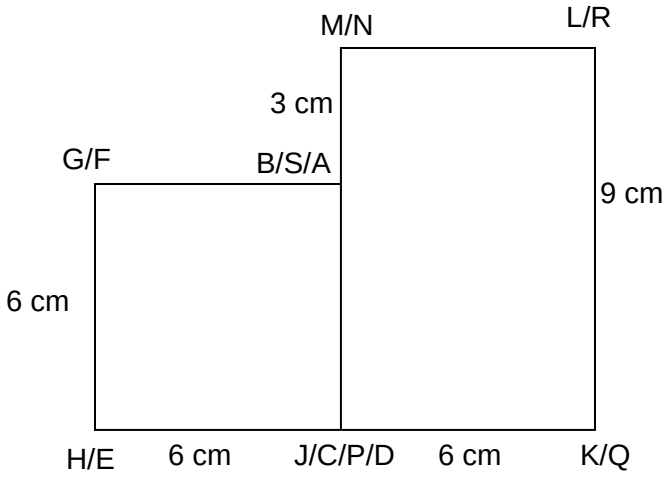
4. (b) (ii)


I/J
7 cm
N/K
A/E
11 cm
8 cm
P
B/F
3 cm
H/G
3 cm
C/D
4 cm
M/L

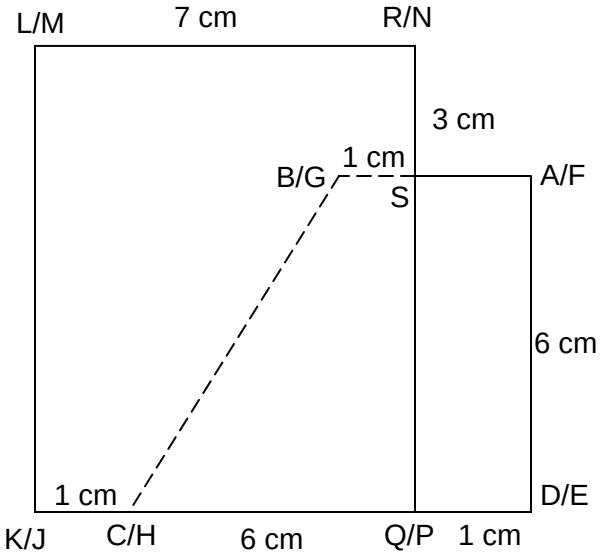
5. (a)


F/E
A/D
2 cm
G
B
5 cm
H
6 cm
C

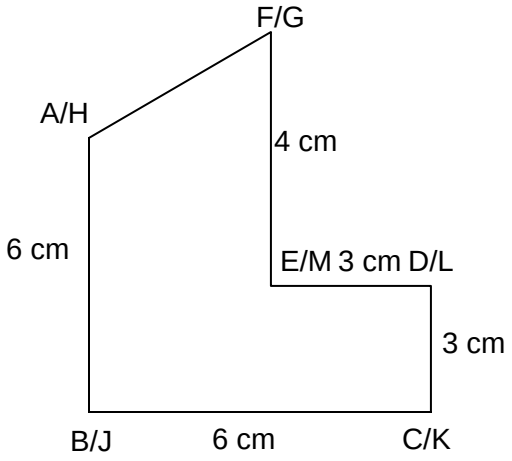
5. (b) (i)


M/N
L/R
3 cm
G/F
B/S/A
9 cm
6 cm
H/E
6 cm
J/C/P/D
6 cm
K/Q

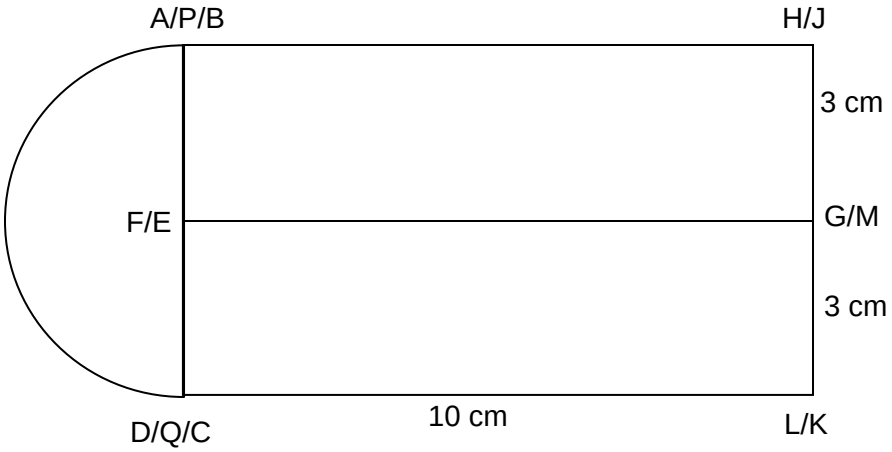
5. (b) (ii)


L/M
7 cm
R/N
3 cm
1 cm
B/G
A/F
S
6 cm
1 cm
D/E
K/J
C/H
6 cm
Q/P
1 cm

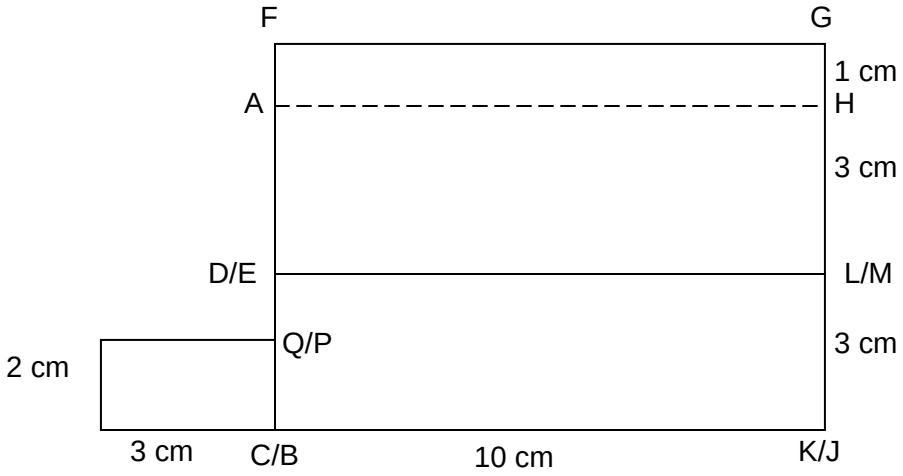
6. (a)


F/G
A/H
4 cm
6 cm
E/M 3 cm D/L
3 cm
B/J
6 cm
C/K

6. (b) (i)


A/P/B
H/J
3 cm
F/E
G/M
3 cm
10 cm
D/Q/C
L/K

6. (b) (ii)


F
G
1 cm
A
H
3 cm
D/E
L/M
Q/P
3 cm
2 cm
3 cm
C/B
10 cm
K/J