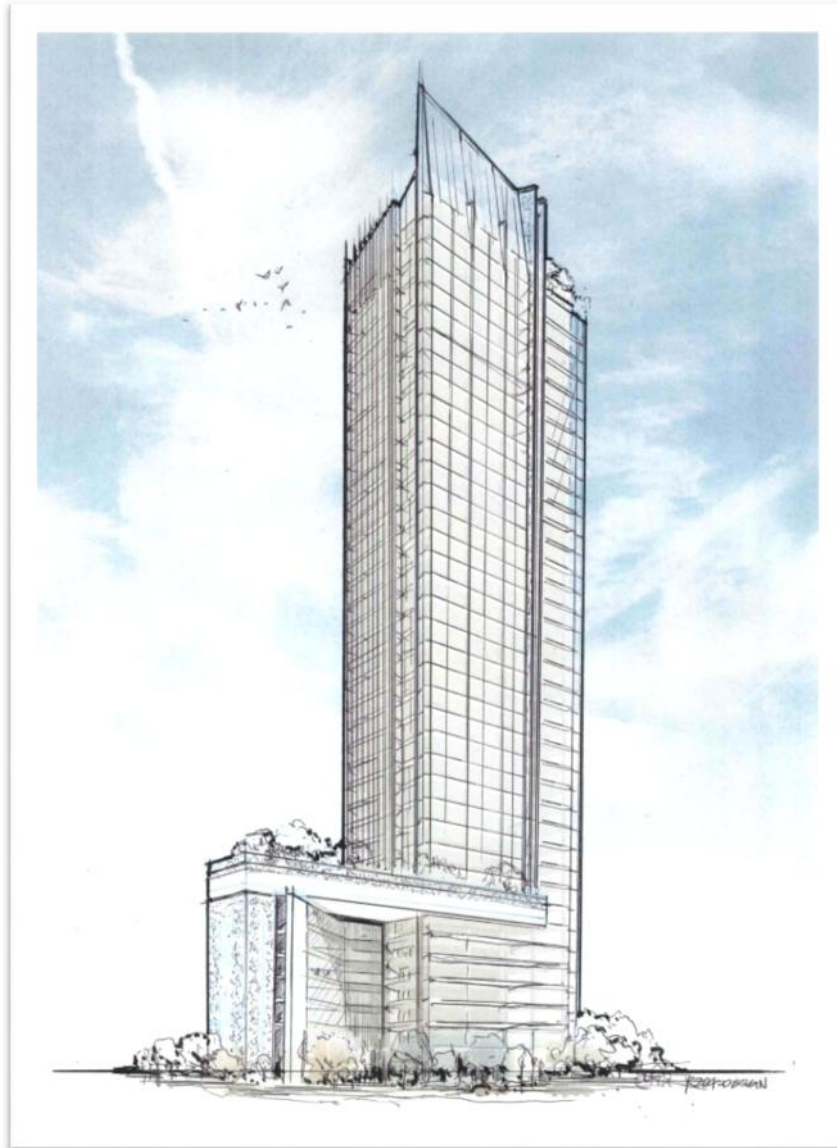


SHEETS— CT 112

Structure Analysis (II) For Civil Department



Prepared by
Eng. Mohamed Samir
Checked by
Dr. Manal zakí

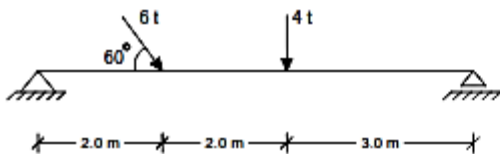




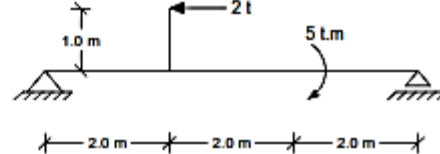
Draw the Straining actions for the following beams (N.F.D, SH.F.D, and B.M.D)

Sheet (1)

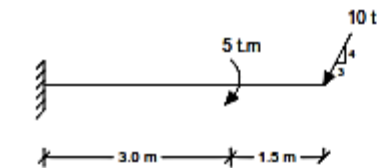
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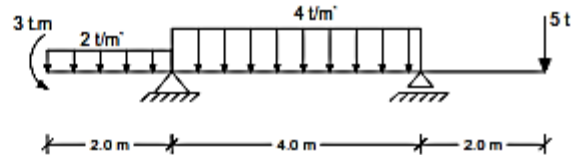
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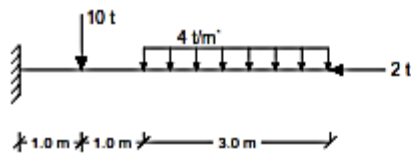
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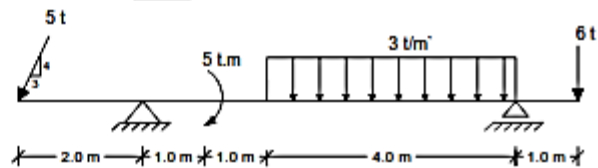
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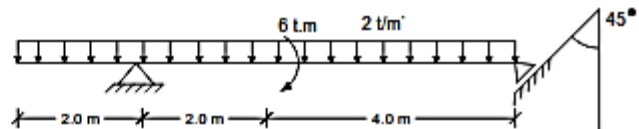
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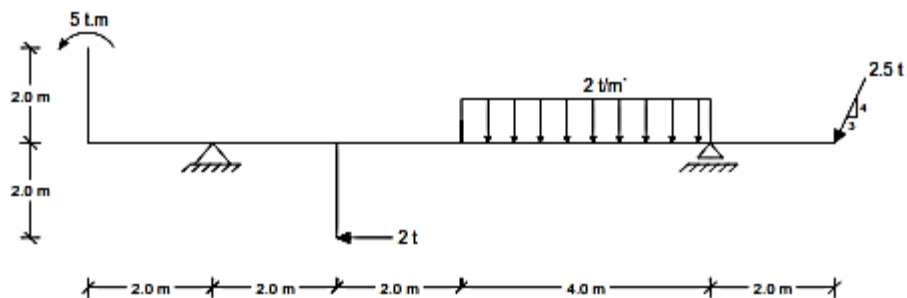
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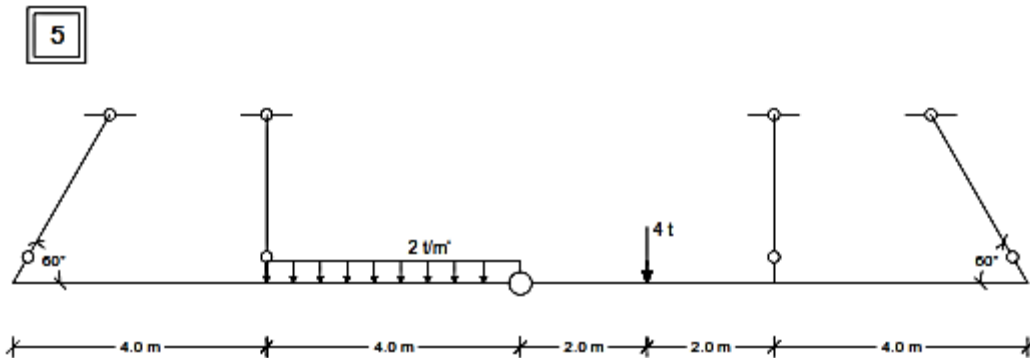
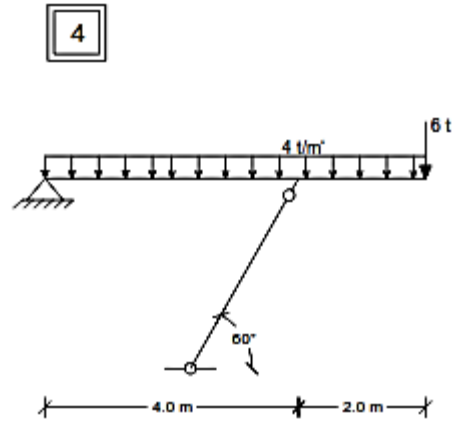
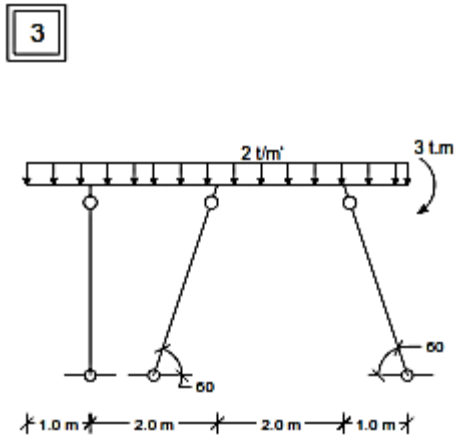
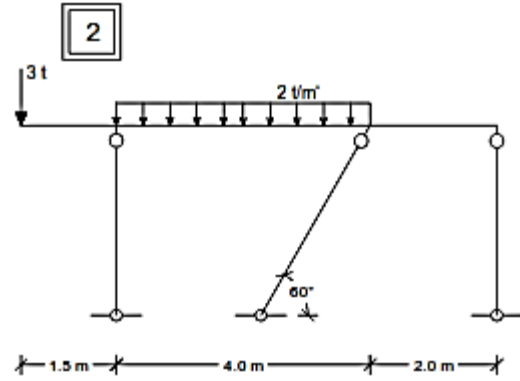
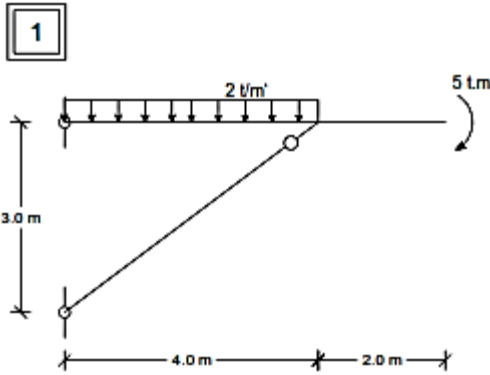


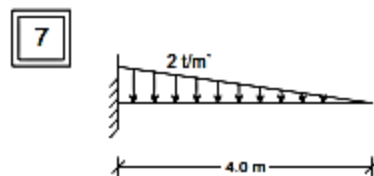
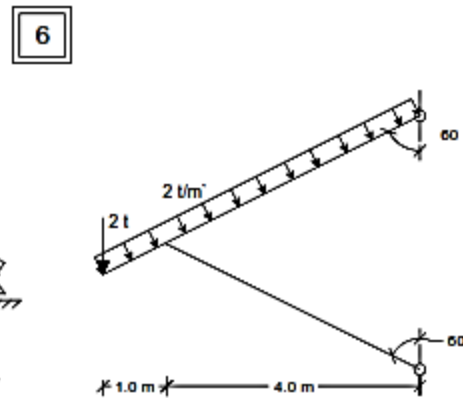
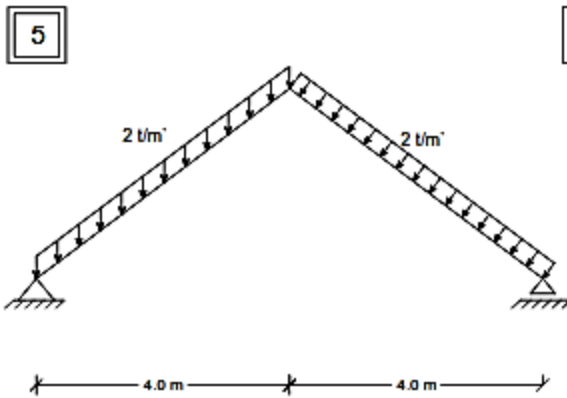
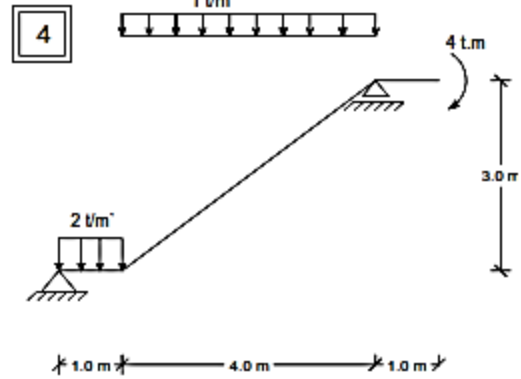
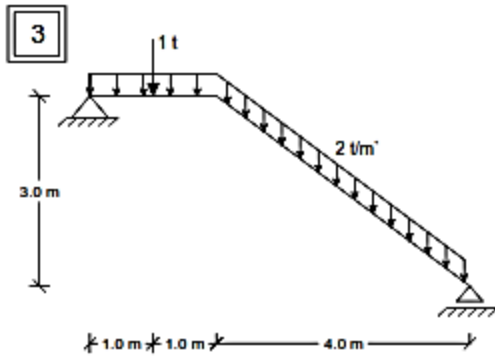
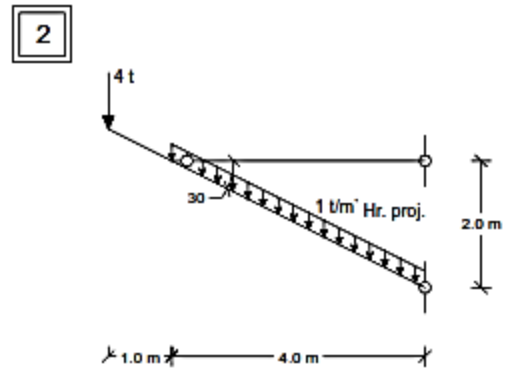
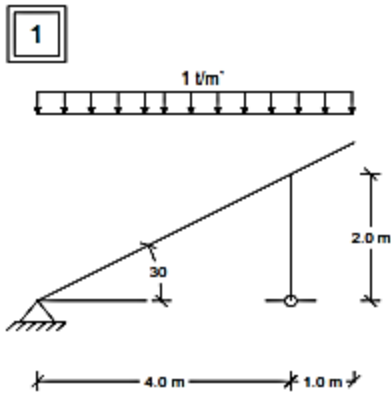
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8

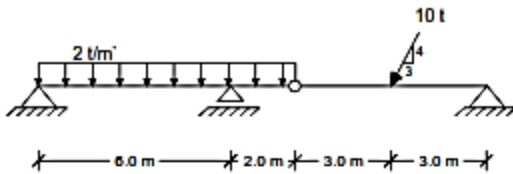




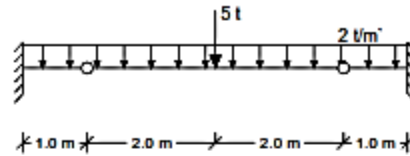




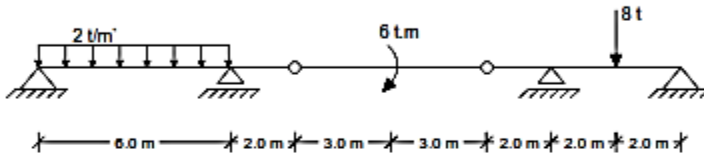
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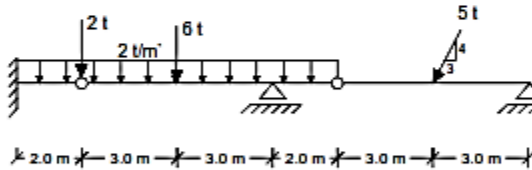
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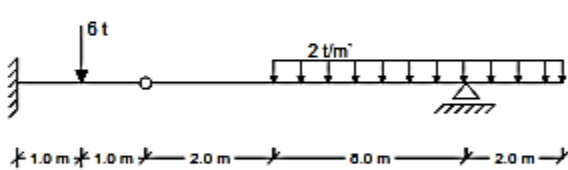
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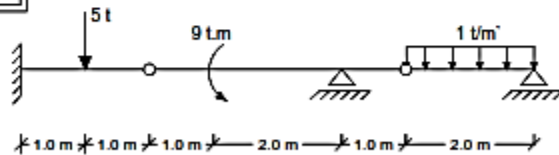
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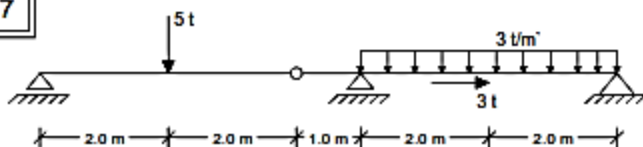
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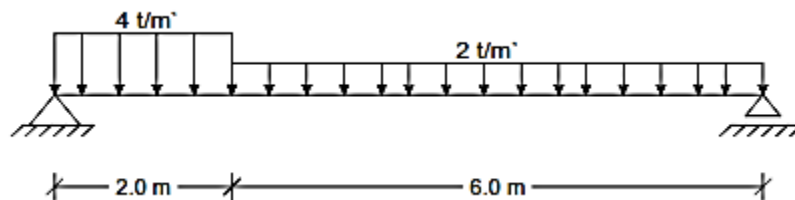
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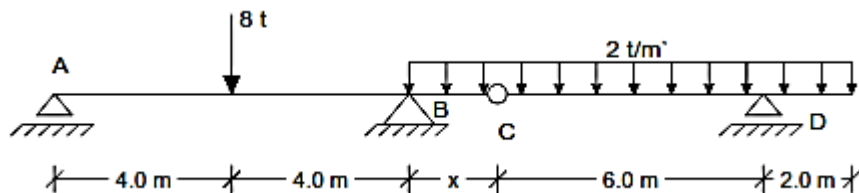
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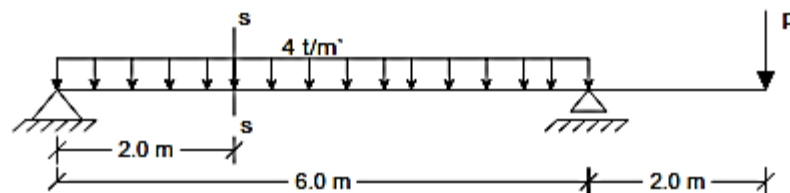
- 1- Find analytically the point of maximum moment and compute the value of the moment of this point?



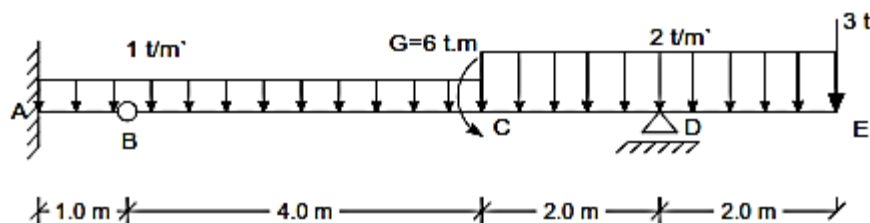
- 2- Find the value of the distance x such that the maximum positive and the negative bending moments are equal. Hence draw action diagrams?



- 3- Find the value of (P) such that the maximum positive moment occurs at section S.S. Hence draw action diagrams?

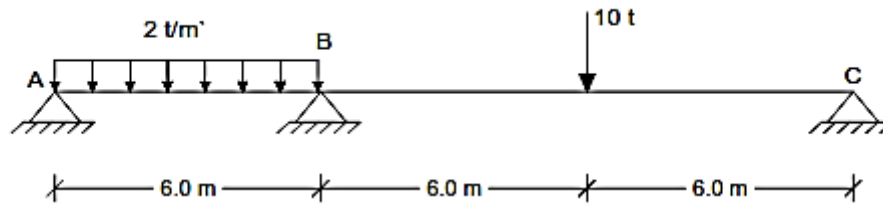


- 4- For the following beam:-
- Draw S.F.D & B.M.D.
 - Determine the magnitude and dir. Of the couple (G) such that max. Positive moment equal max negative moment in part BCDE.





5- Draw S.F.D & B.M.D for the shown statically indeterminate beam given that B.M. at B = - 10 t.m.

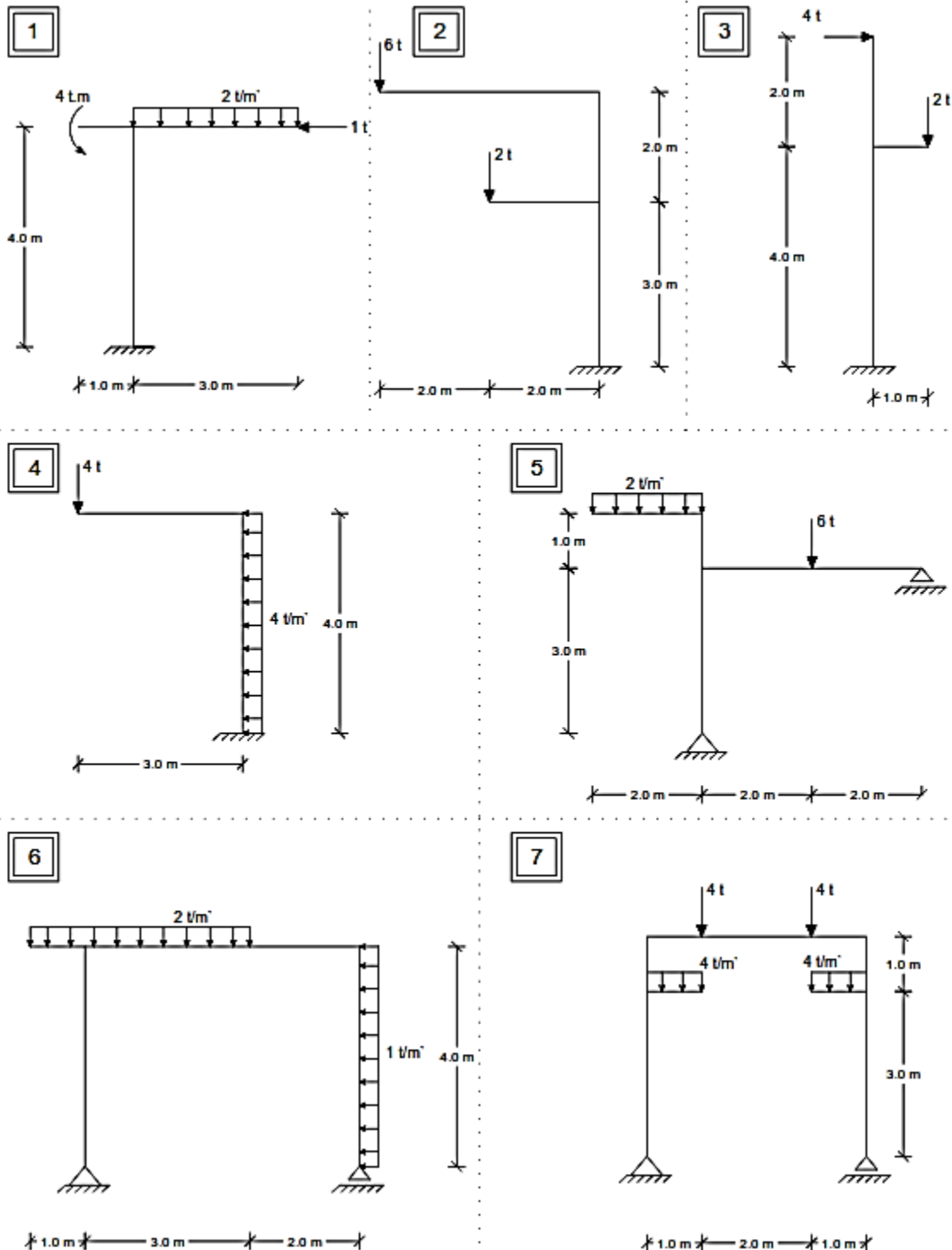


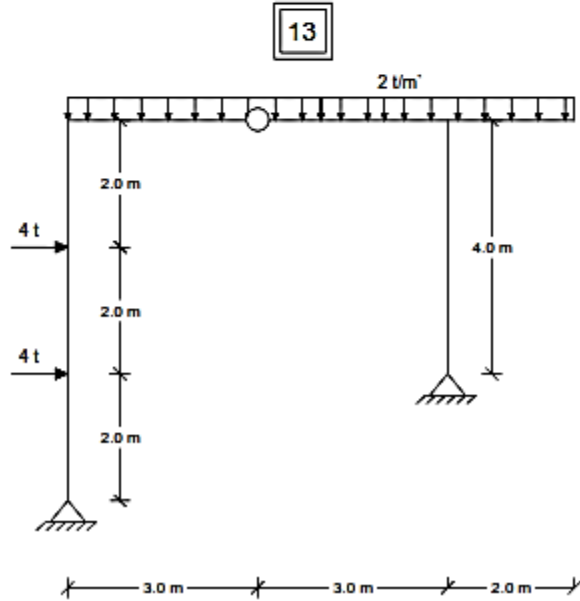
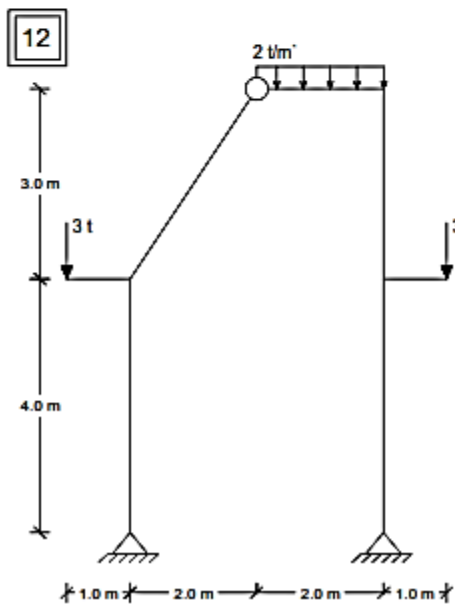
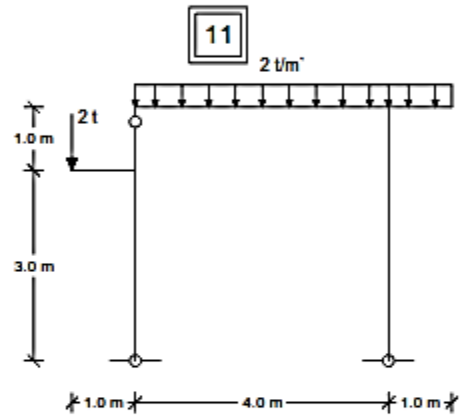
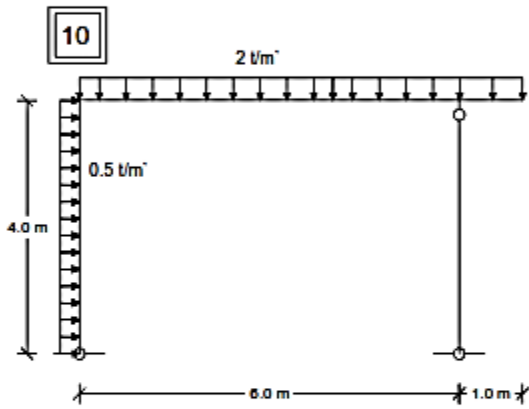
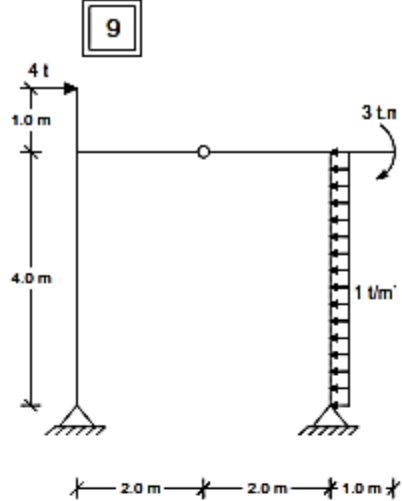
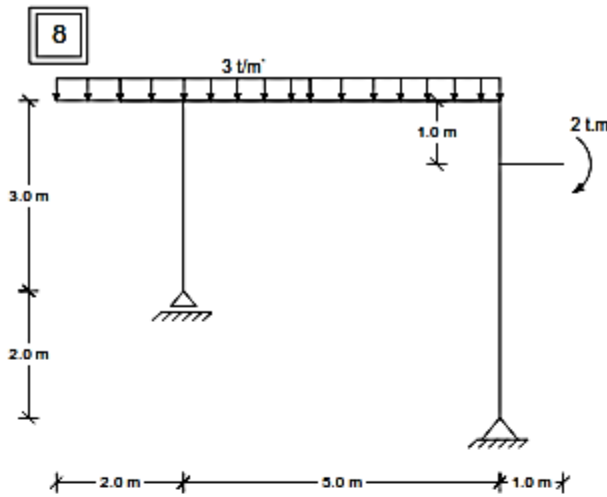
Good Luck.....

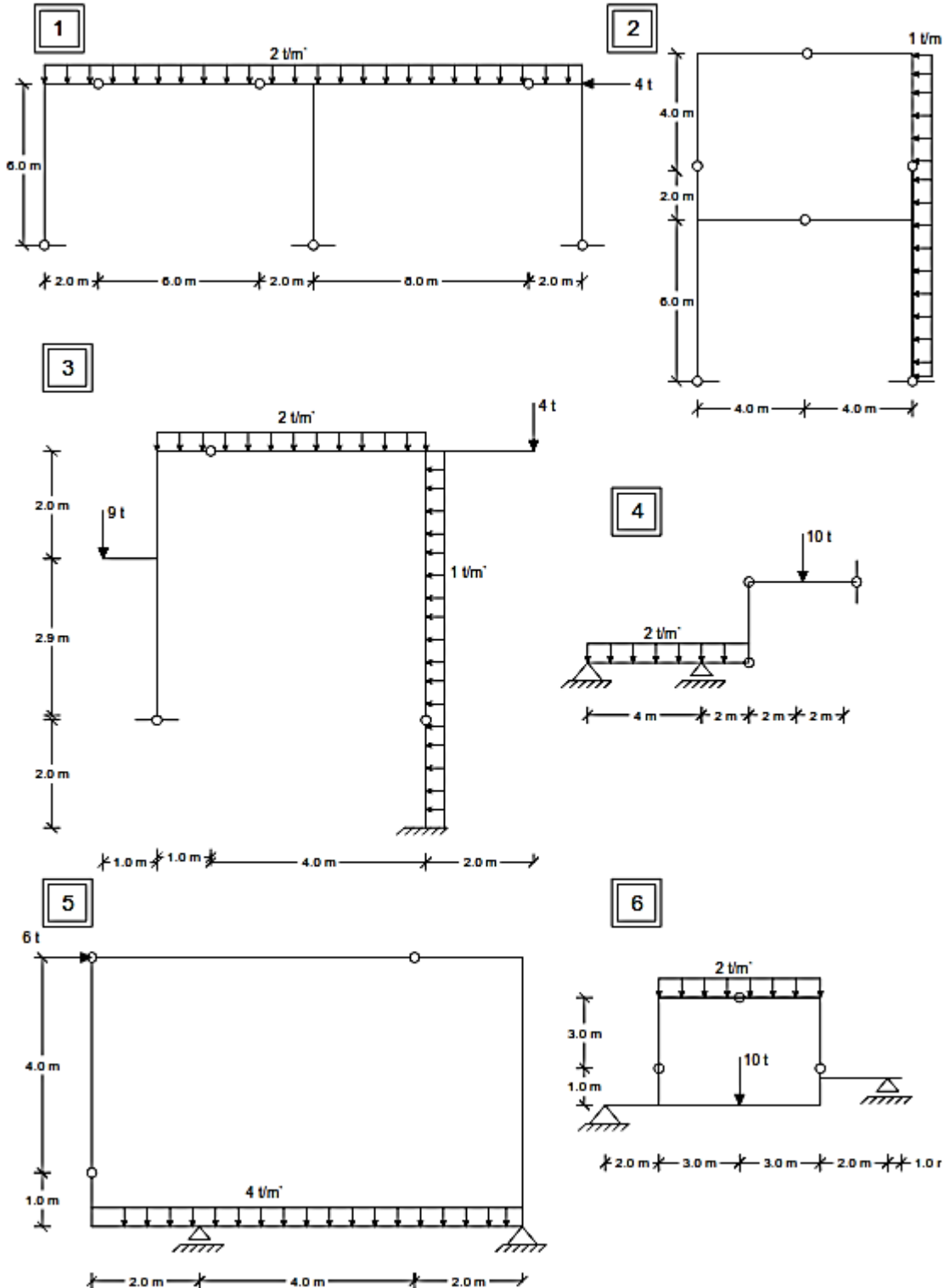


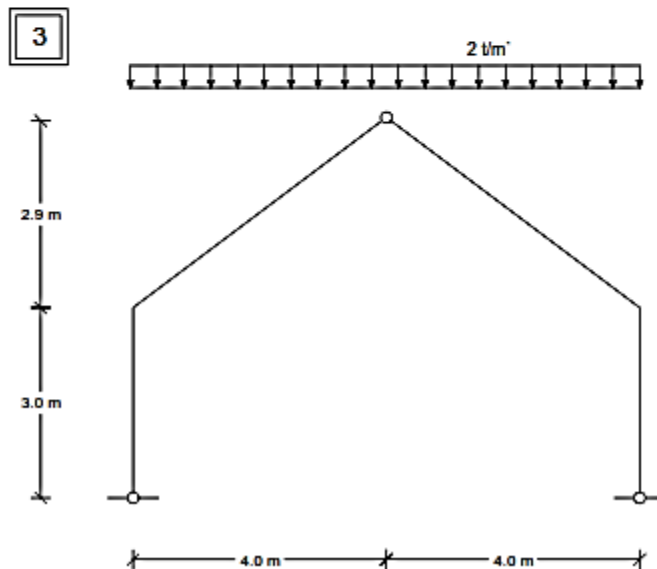
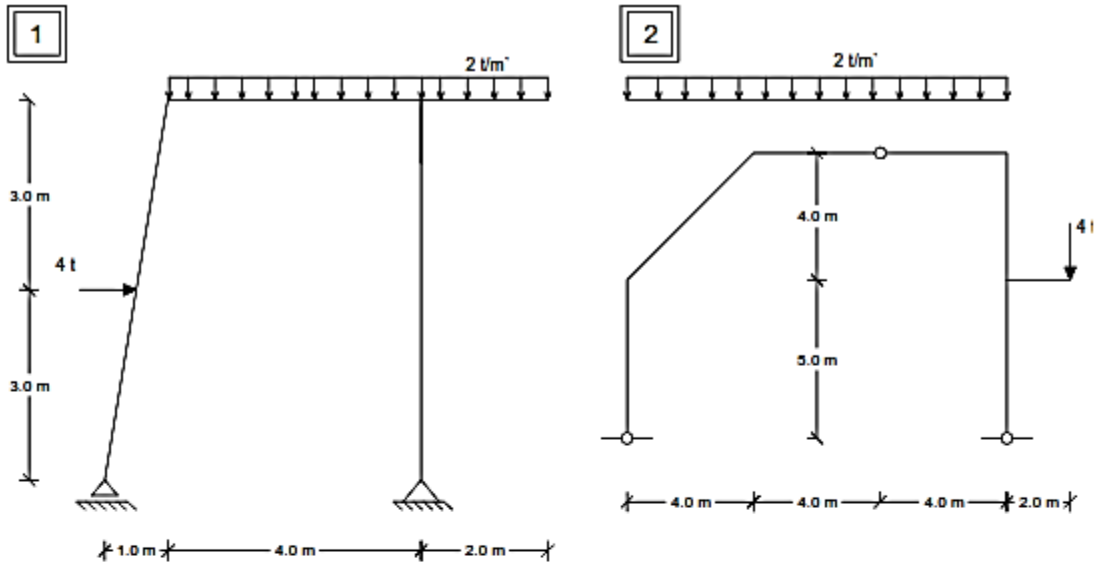
Draw the Straining actions for the following Frames (N.F.D, SH.F.D, and B.M.D)

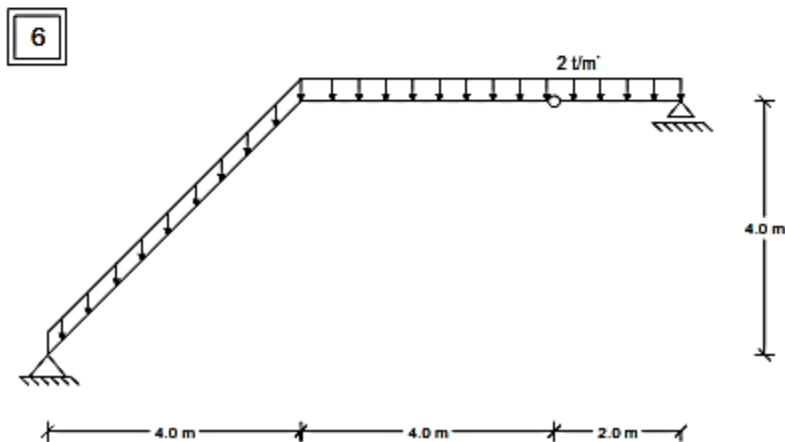
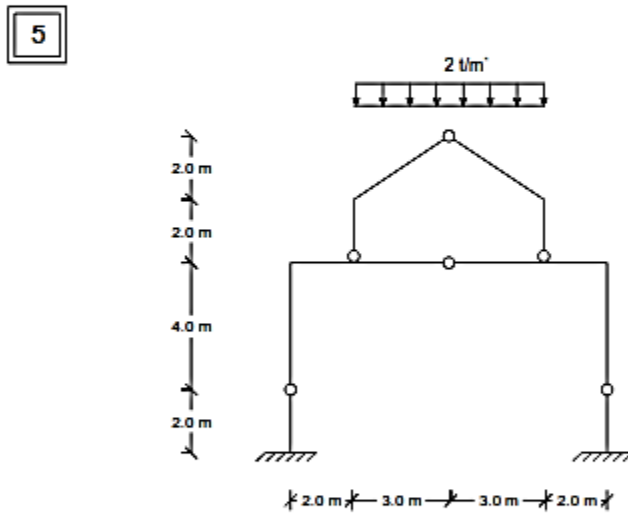
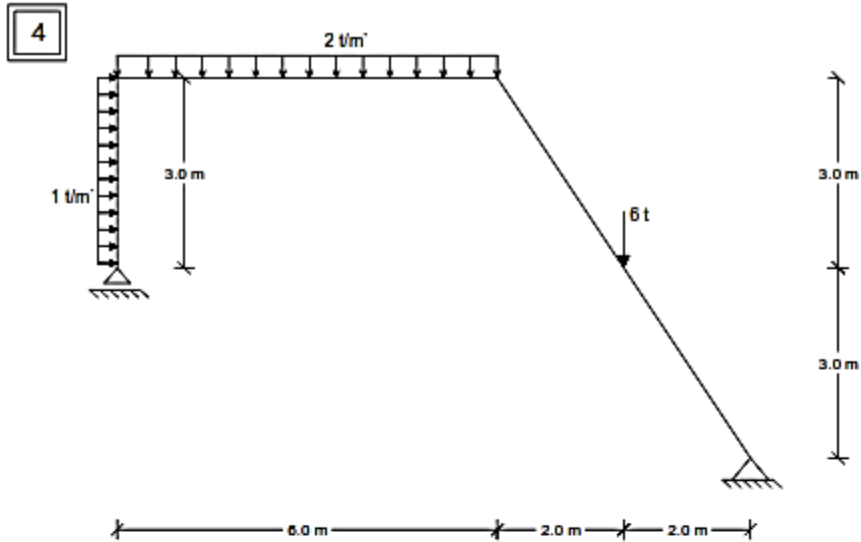
Sheet (2)





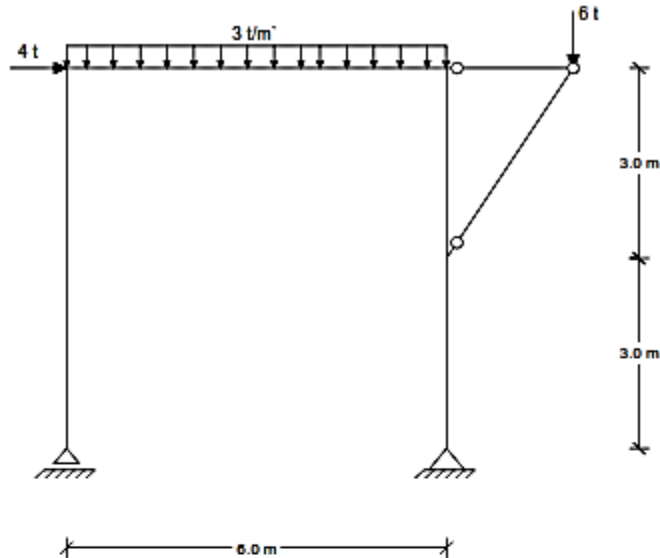




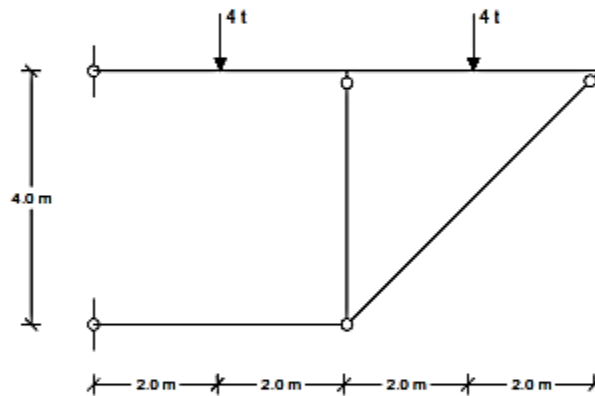




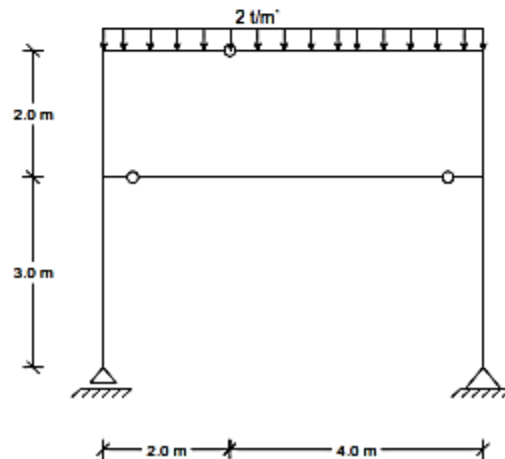
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2

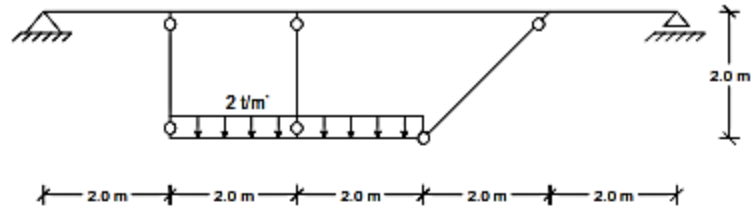


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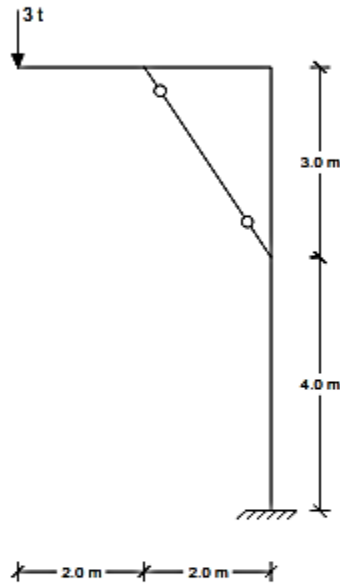




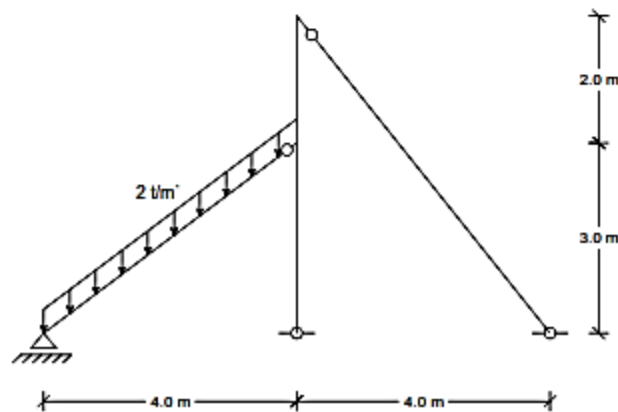
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5

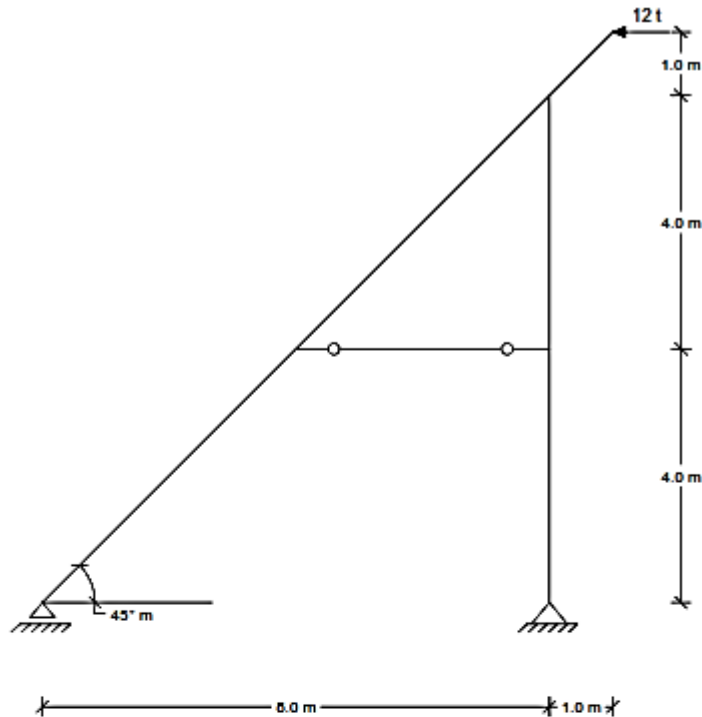


6

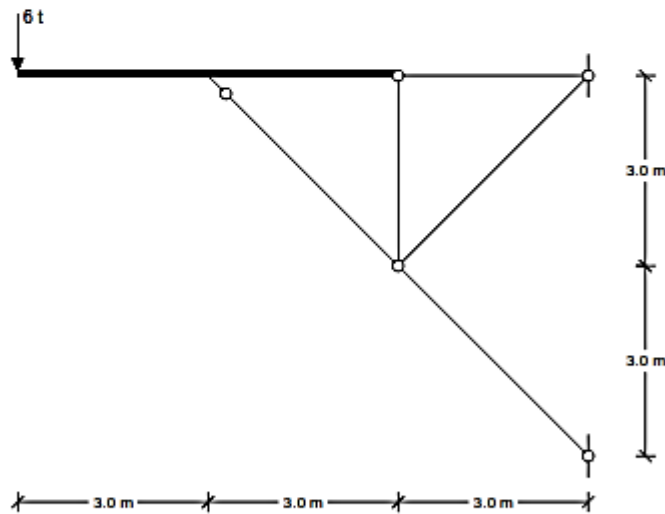




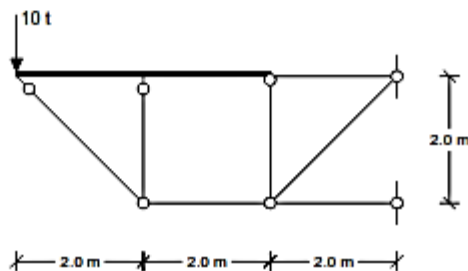
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8



9

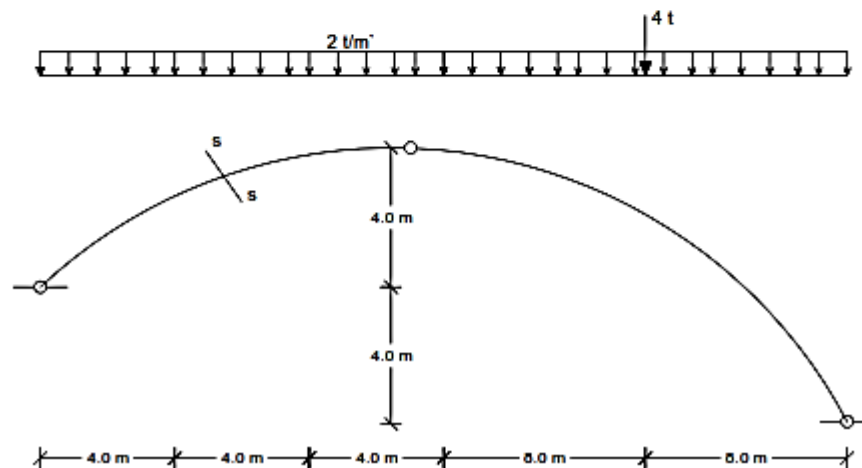
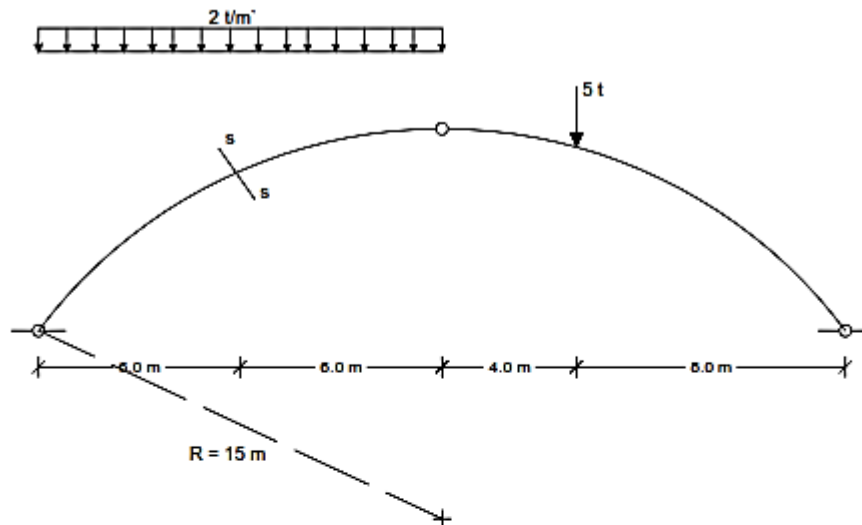


Good Luck



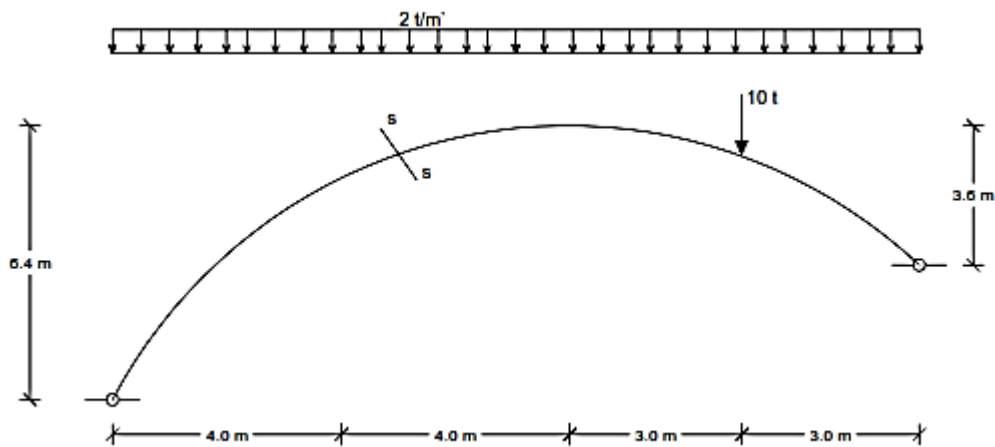
- Draw the line of pressure.
- Find analytically & check graphically the N.F.D, S.H.F.D & B.M.D at sec s-s.

Sheet (3)



- Find analytically & check graphically the N.F.D, S.H.F.D & B.M.D at sec s-s.

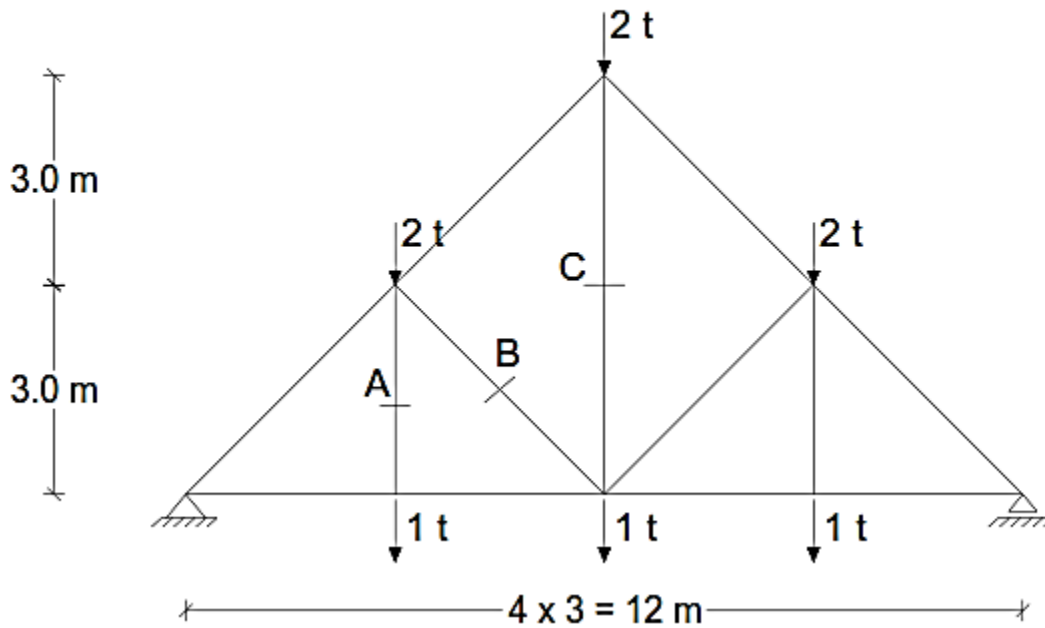
$$Y = ax^2$$



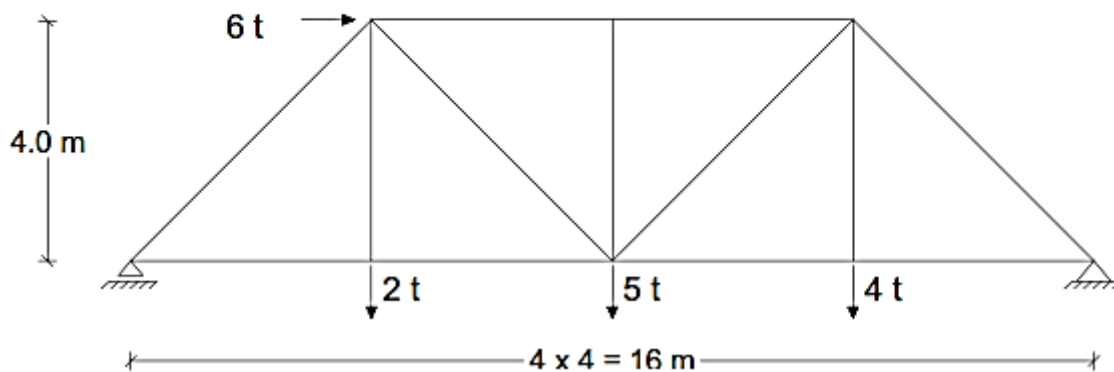
Good Luck

- Find the internal forces at these members.

1

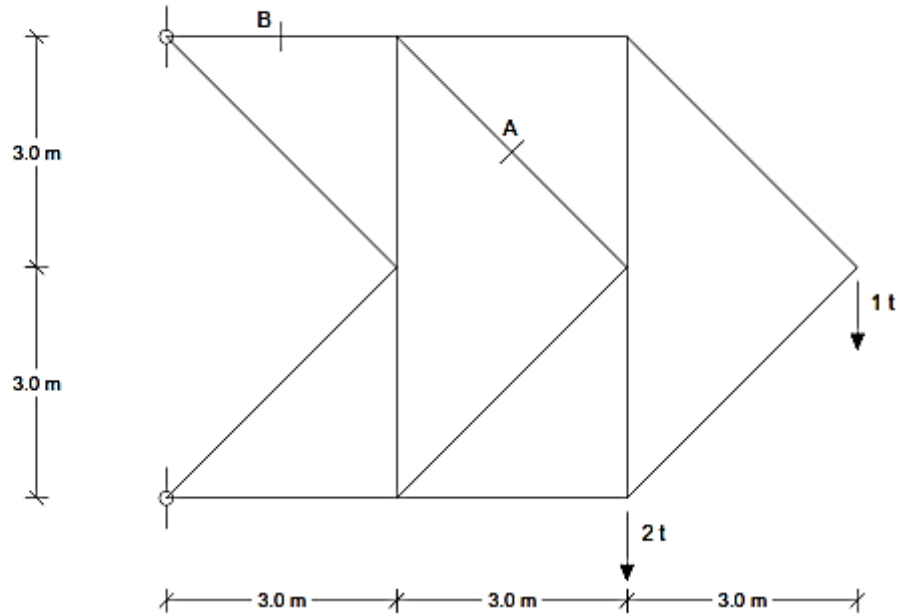


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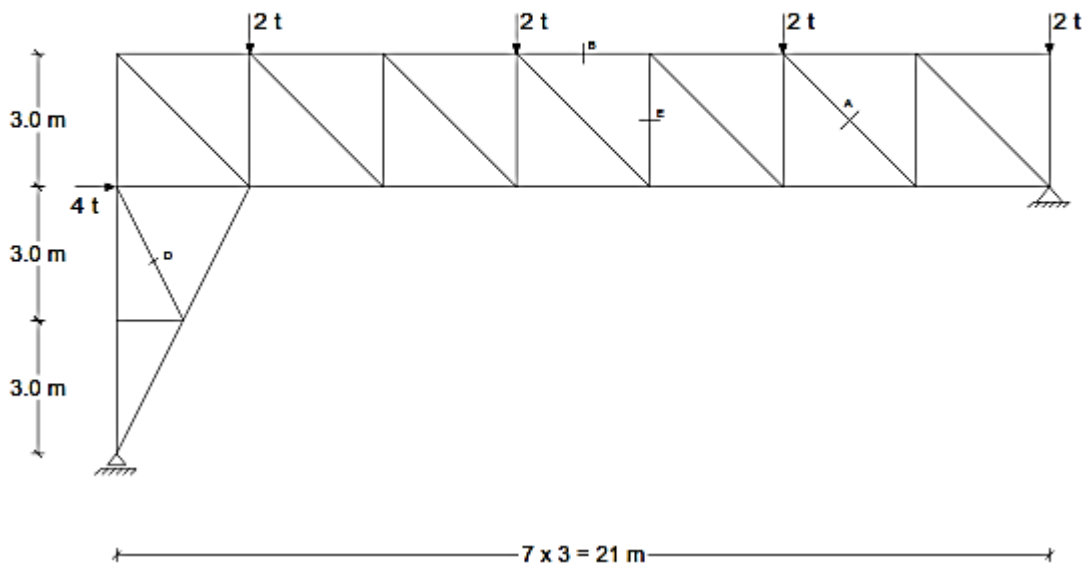




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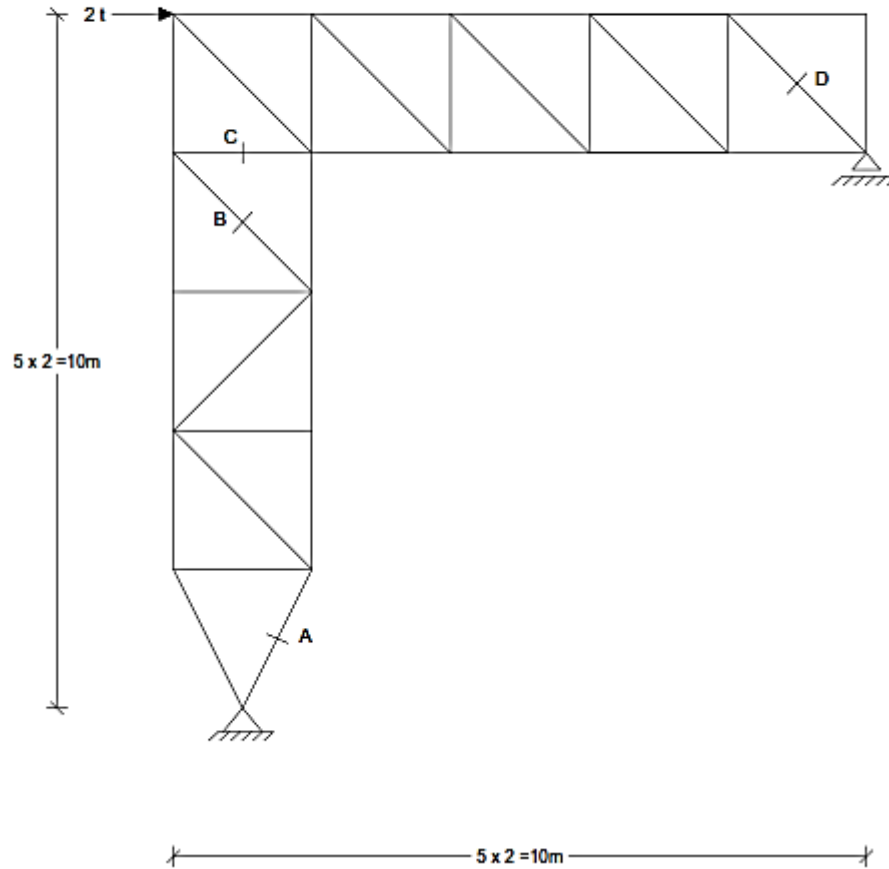


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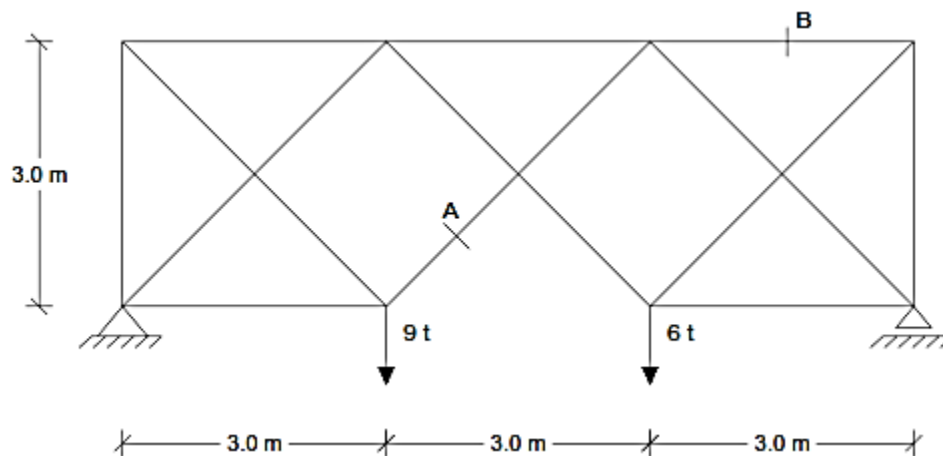




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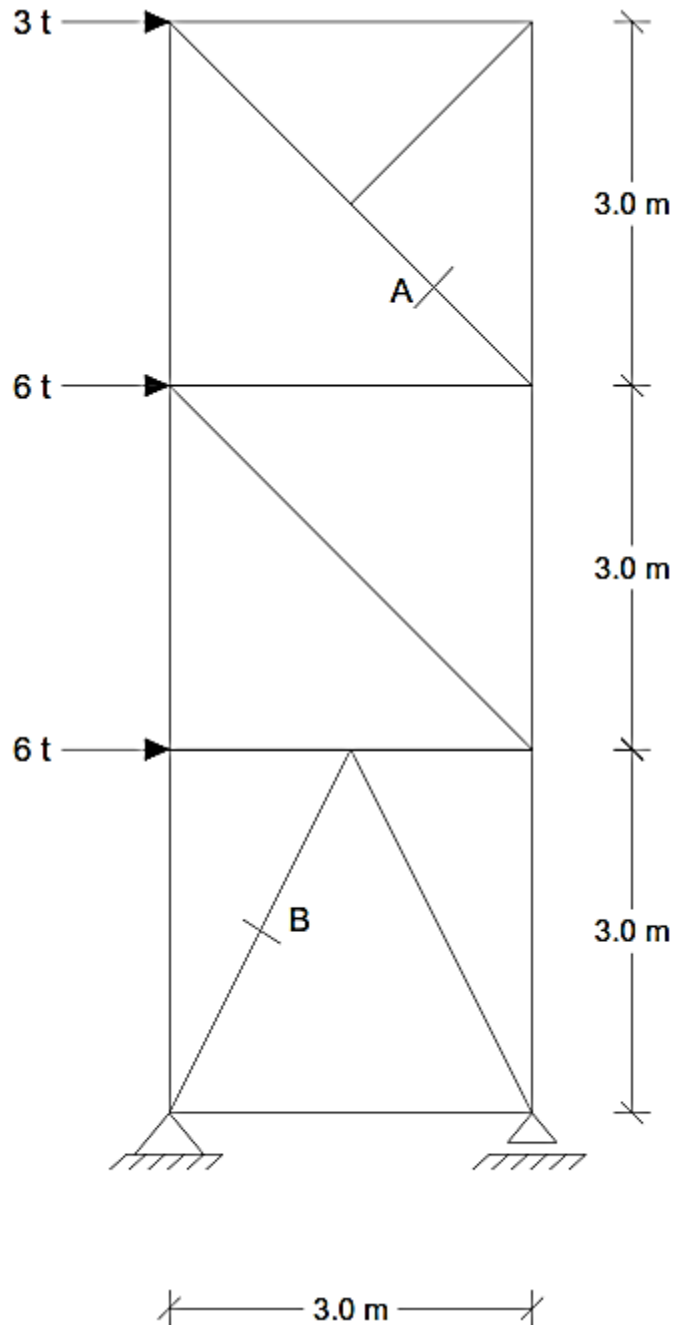


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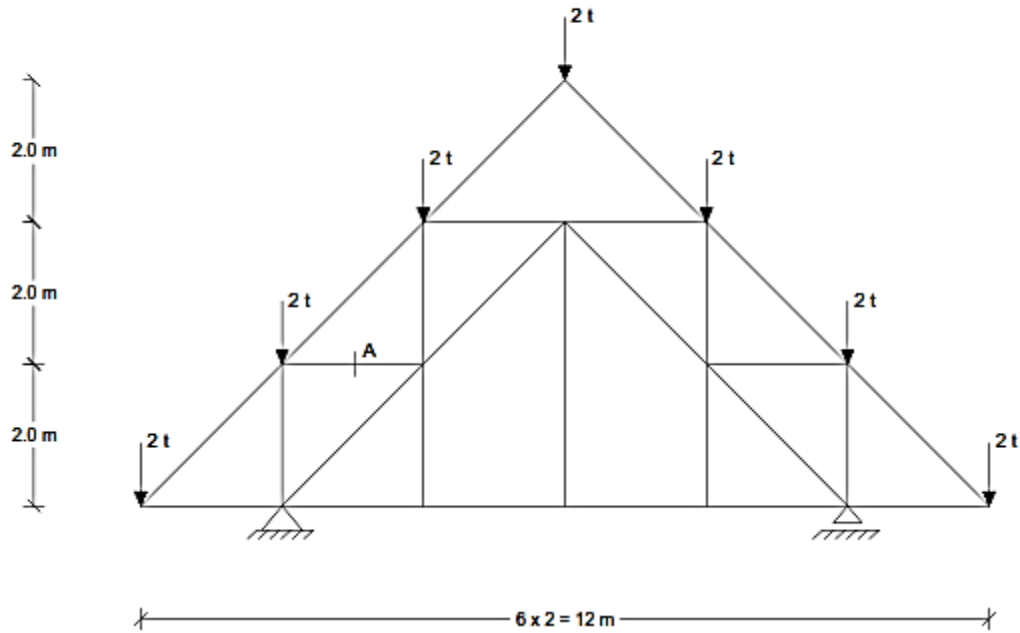


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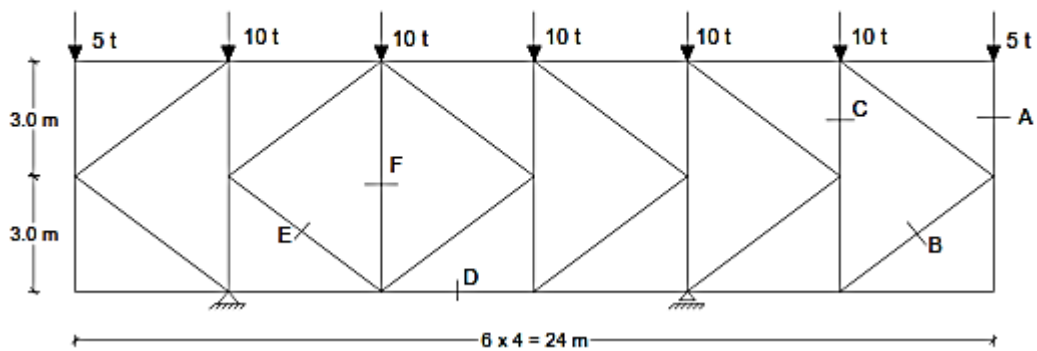




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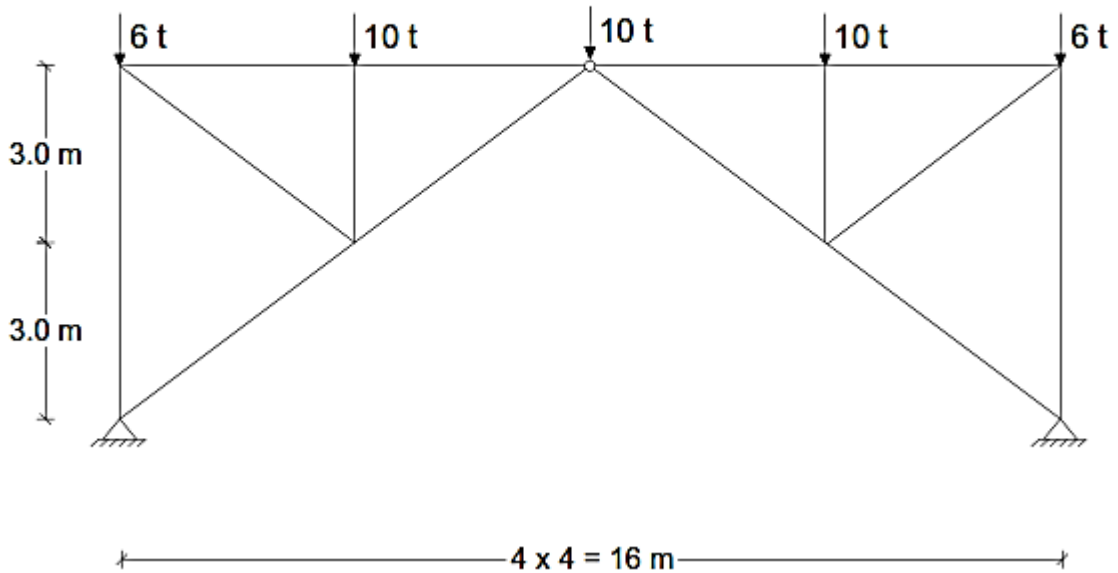


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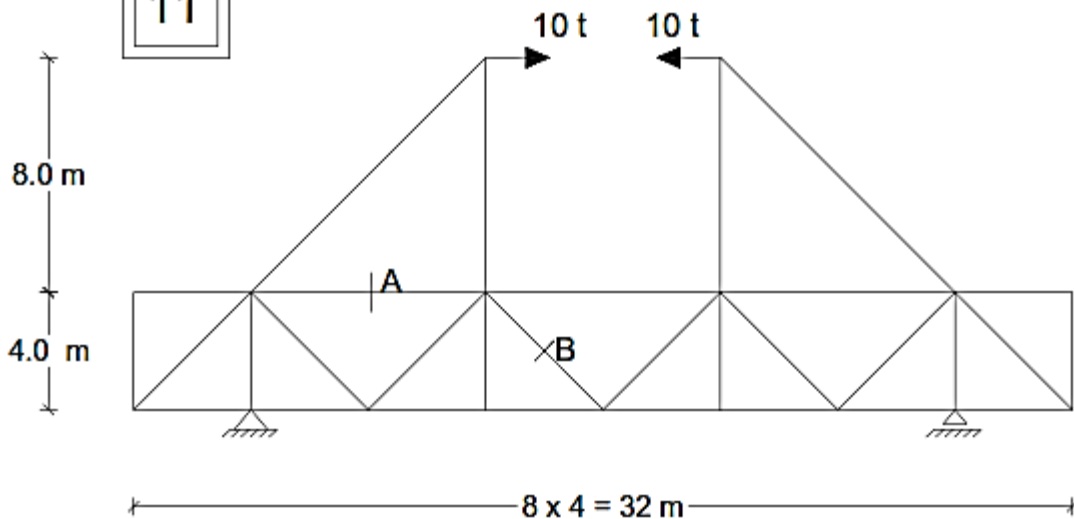




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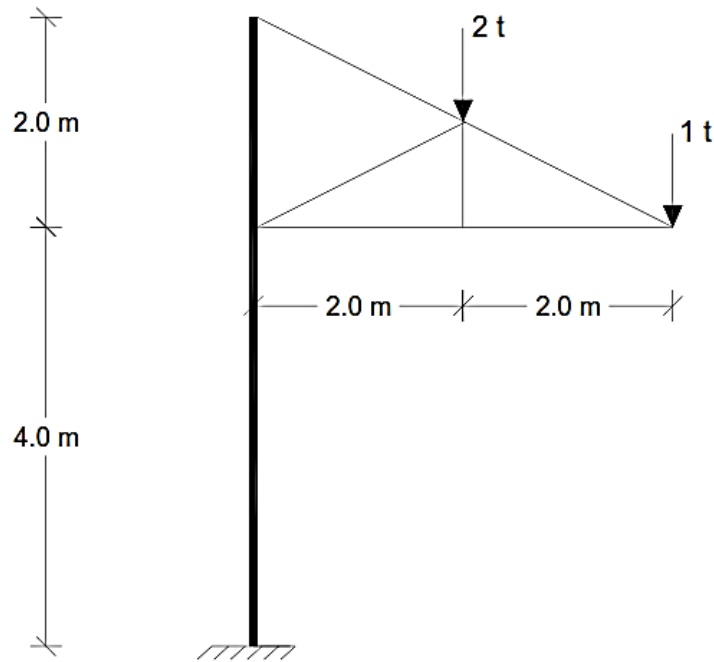


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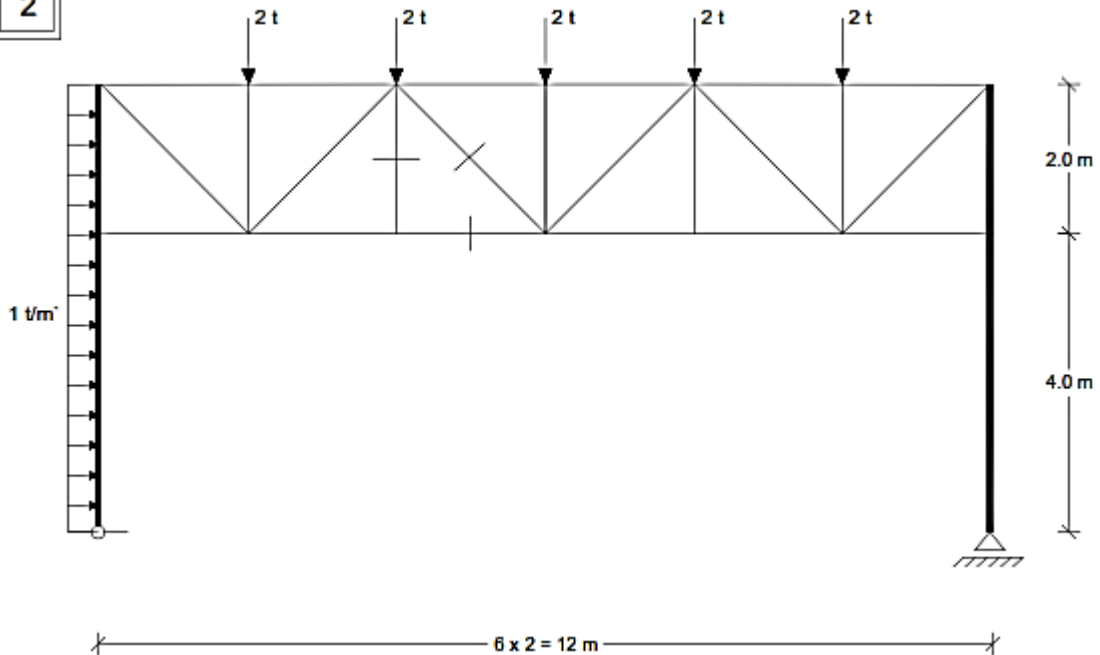


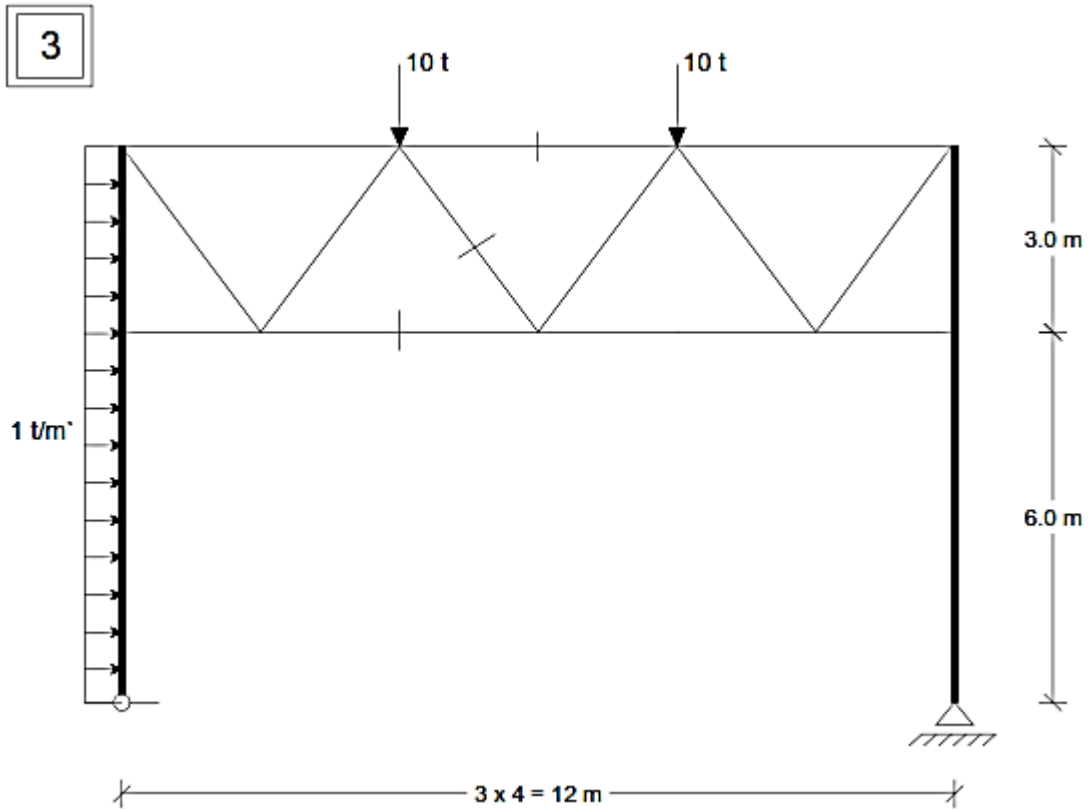


1



2

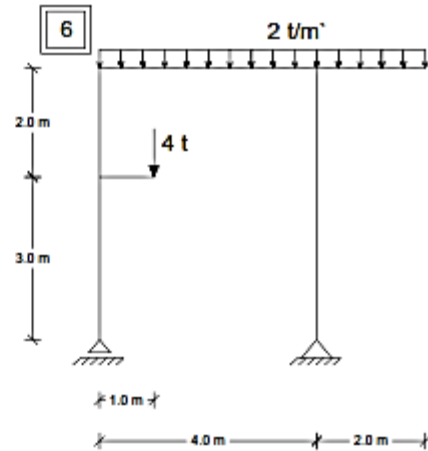
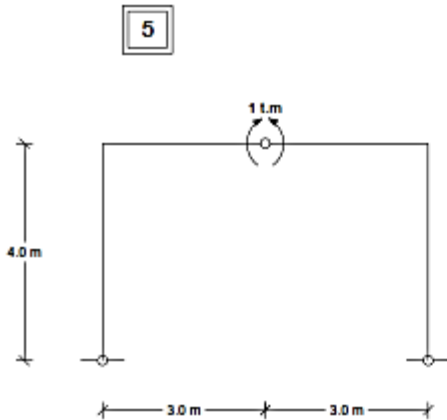
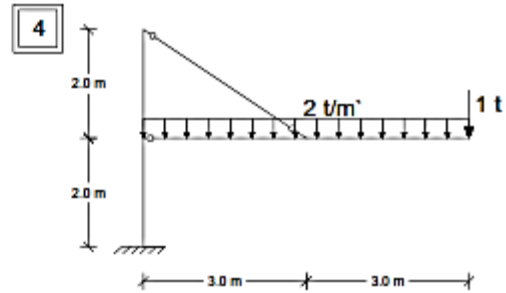
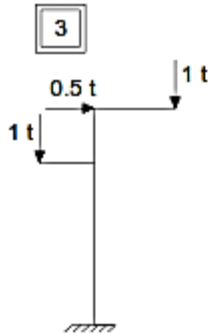
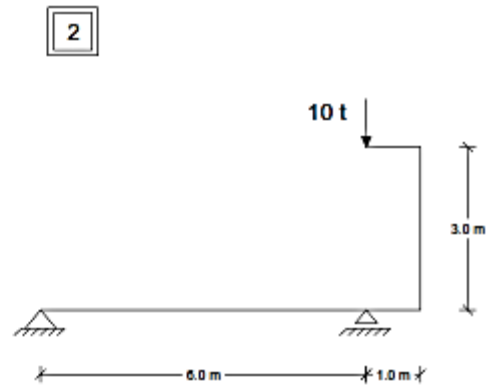
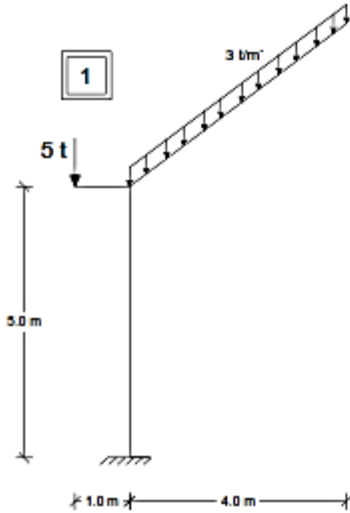


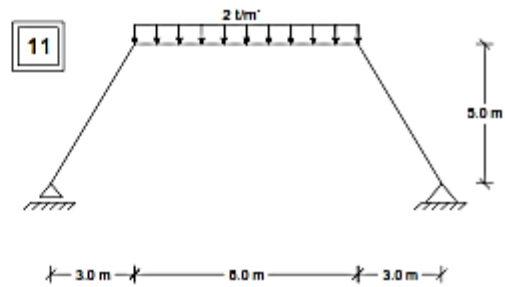
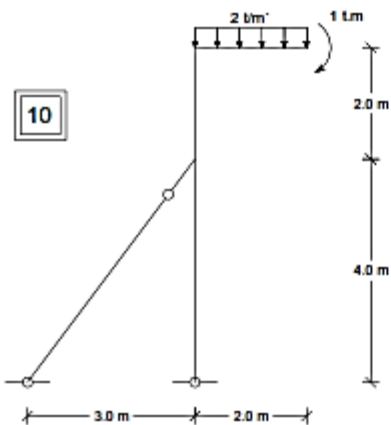
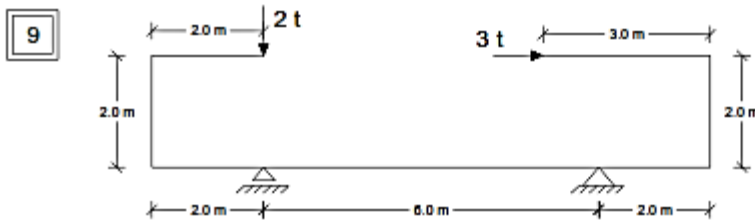
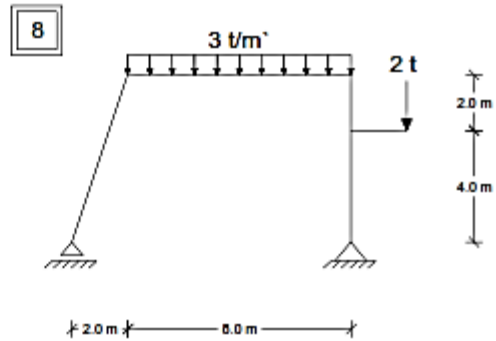
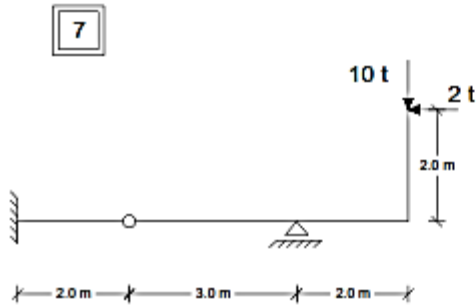


Good Luck



Draw B.M.D only.





Good Luck