PES UNIVERSITY ONLINE

ENGINEERING MECHANICS

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Department of Civil Engineering

ENGINEERING MECHANICS

STRUCTURES

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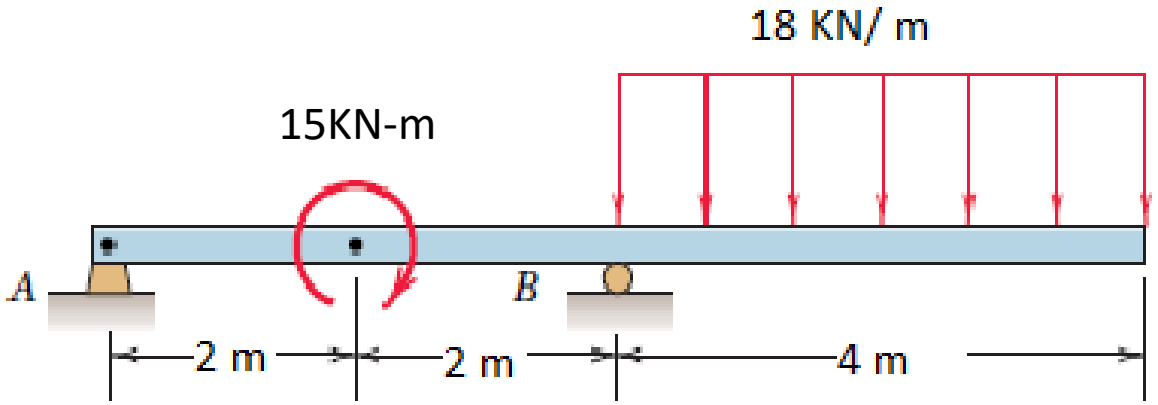
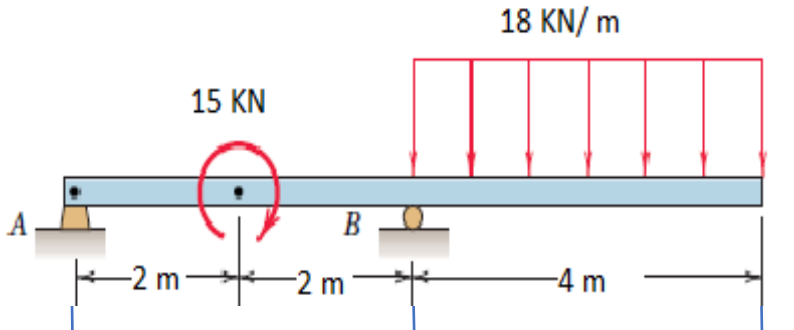
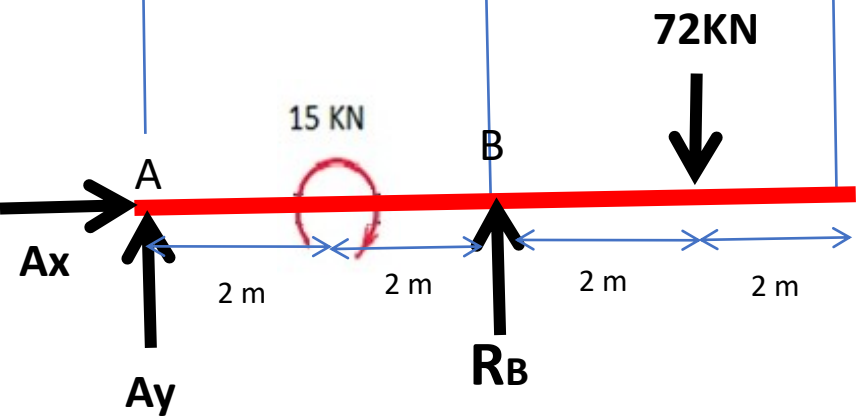
5/107 Determine the reactions at A and B for the beam loaded as shown.





FBD of beam AB



R= w. l

R= 18 X (4)= 72 KN

Applying conditions of equilibrium:

$F_X = 0$ $\quad$ Ax = 0

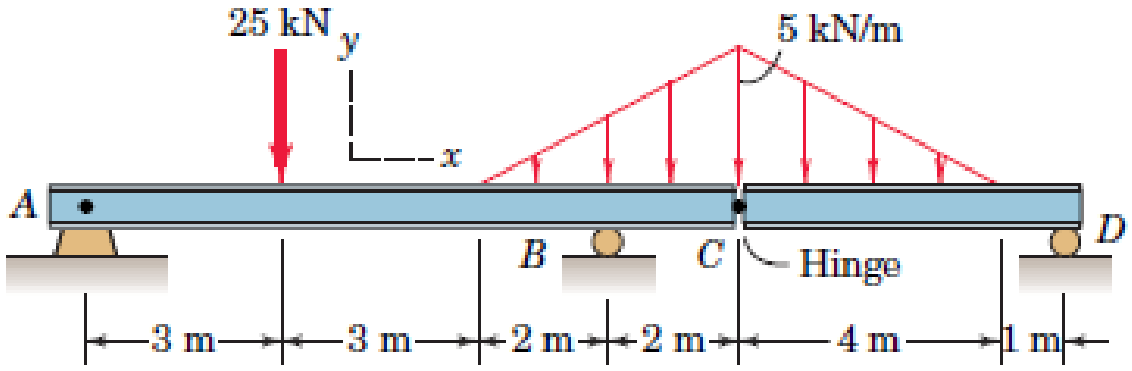
$\sum M_A = 0$ $\quad$ - 15 + (R_B x 4) - (72 x (2+2+2)) = 0

R_B = 111.75 KN

$\sum F_Y = 0$ $\quad$ + A_Y + R_B -72 = 0

A_Y = 39.75KN

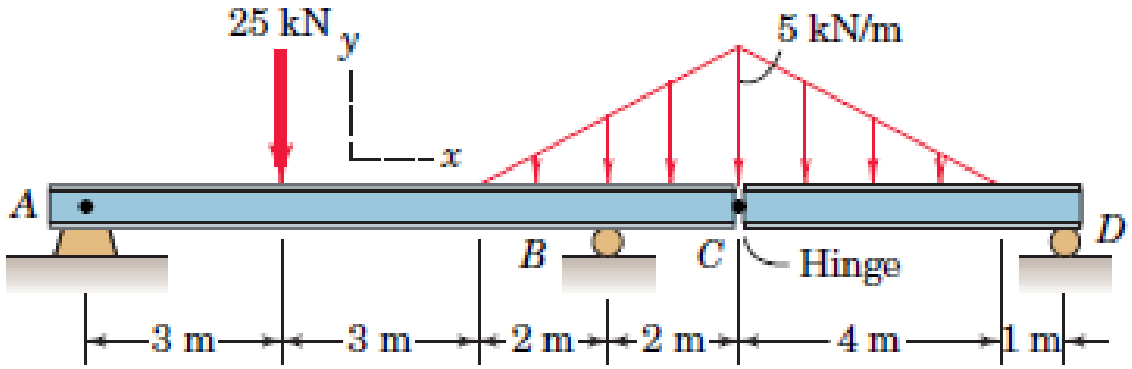
5/109. Determine the reactions at *A, B,* and *D* for the pair of beams connected by the ideal pin at *C* and subjected to the concentrated and distributed loads.



Problem 5/109

ENGINEERING MECHANICS

Beams



Problem 5/109

$A_X = 0$

$A_Y = 12.96KN$

$B_Y = 29.4KN$

$D_Y = 2.67KN$

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THANK YOU

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