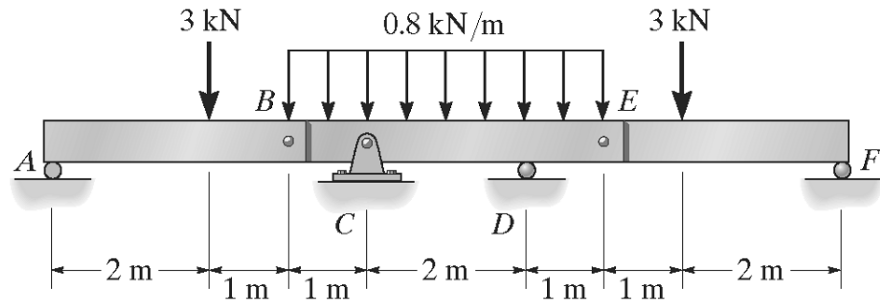


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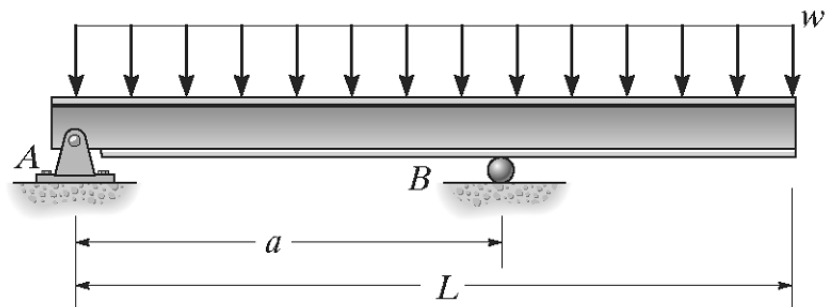
Student ID:

M08: Bending Internal Forces - Applications

1. Draw the shear and moment diagrams for the compound beam. The three segments are connected by pins  $B$  and  $E$ . 【画出图示复合梁的剪力图和弯矩图，三部分梁由销钉  $B$  和  $E$  铰接】



2. Determine the placement distance  $a$  of the roller support so that the largest absolute value of the moment is a minimum. Draw the shear and moment diagrams for this condition. 【试求当梁中弯矩的最大绝对值取最小值时的滚动支撑位置  $a$ ，并画剪力图和弯矩图。】

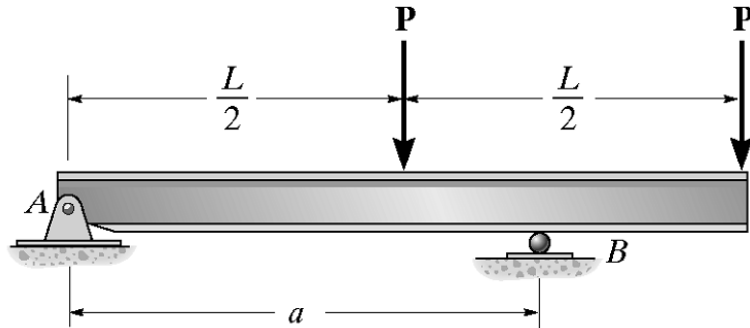


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M08: Bending Internal Forces - Applications

3. Determine the placement distance  $a$  of the roller support so that the largest absolute value of the moment is a minimum. Draw the shear and moment diagrams for this condition. 【试求当梁中弯矩的最大绝对值取最小值时的滚动支撑位置  $a$ ，并画剪力图和弯矩图。】



4. The truck is to be used to transport the concrete column. If the column has a uniform weight of  $w$  (force/length), determine the equal placement  $a$  of the supports from the ends so that the absolute maximum bending moment in the column is as small as possible. Also, draw the shear and moment diagrams for the column. 【图示卡车正运输一单位长度重量为  $w$  的混凝土柱，欲使得混凝土柱中所受弯矩的最大绝对值取最小值，试求对称支撑的位置  $a$ ，并画剪力图和弯矩图。】

