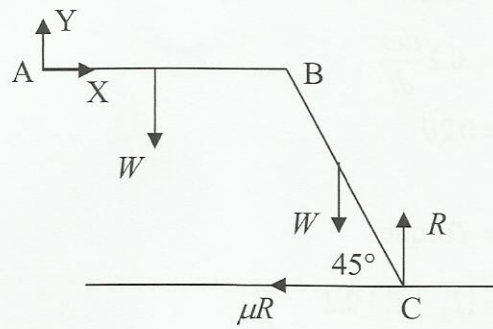


7 (b)



Moments about C for system :

$$\begin{aligned}
 X\left(\frac{2\ell}{\sqrt{2}}\right) + Y\left(2\ell + \frac{2\ell}{\sqrt{2}}\right) &= \\
 &= W\left(\ell + \frac{2\ell}{\sqrt{2}}\right) + W\left(\frac{\ell}{\sqrt{2}}\right) \\
 2X + 2\sqrt{2}Y + 2Y &= W\sqrt{2} + 3W
 \end{aligned}$$

Moments about B for AB :

$$\begin{aligned}
 Y(2\ell) &= W(\ell) \\
 Y &= \frac{W}{2} \\
 \Rightarrow X &= W
 \end{aligned}$$

$$Y + R = 2W \Rightarrow R = \frac{3W}{2}$$

$$X = \mu R$$

$$\begin{aligned}
 X &= \mu\left(\frac{3W}{2}\right) \\
 \Rightarrow \mu &= \frac{2}{3}
 \end{aligned}$$

5

5

5

5

5

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