

14. The (vertical) forces at points A , B and P are F_A , F_B and F_P , respectively. We note that $F_P = W$ and is upward. Equilibrium of forces and torques (about point B) lead to

$$\begin{aligned}F_A + F_B + W &= 0 \\bW - aF_A &= 0\end{aligned}$$

- (a) From the second equation, we find $F_A = bW/a = (15/5)W = 3W$.
(b) Using this result in the first equation above, we obtain $F_B = W - F_A = -4W$, pointing downward (as indicated by the minus sign).