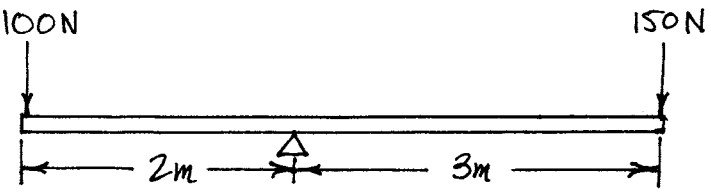
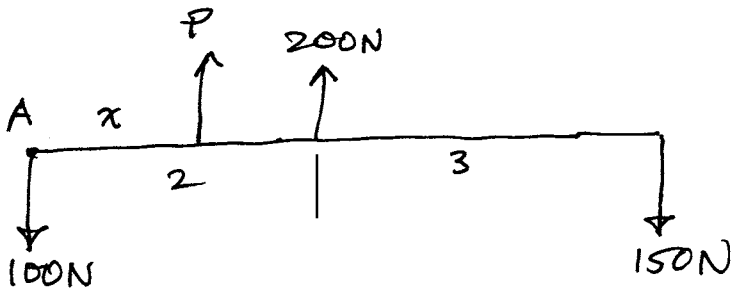
1.





Assume that the added force P is upward and a distance x from the left end A.

$$\Sigma F_y = 0 \Rightarrow -100 + P + 200 - 150 = 0$$

$$P = 250 - 200$$

$$\boxed{P = 50\ N}$$

That P is positive means that the upward direction that we chose for it is correct. If P were negative, it would mean that P is directed downward.

$$\circlearrowleft \Sigma \tau_A = 0 \Rightarrow P(x) + 200(2) - 150(5) = 0$$

$$50x + 400 - 750 = 0$$

$$5x = 75 - 40 = 35$$

$$\boxed{x = 7m}$$

That P is located 2 m beyond the actual end of the bar simply means that, for equilibrium, the bar would need to be extended by 2 m.