(ii) The Principle of Moments applied to this situation leads to the following equation:

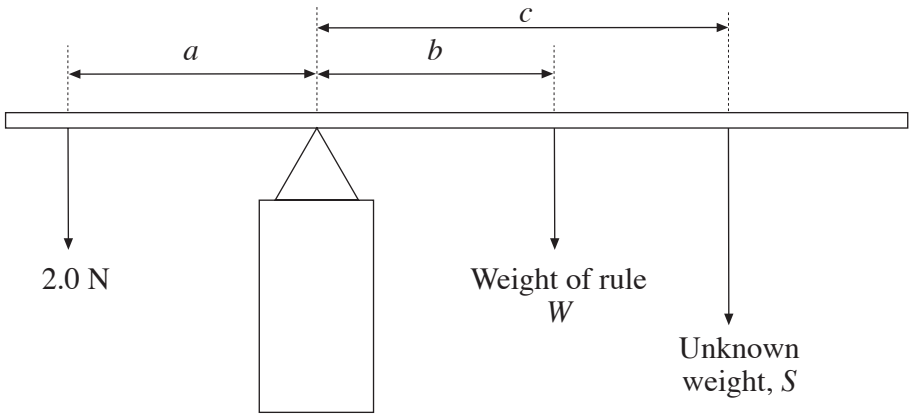
$$2.0x = Wy$$

Use your results in *(b)*(i) to determine a value for W (in newtons). [2]

Weight correct to 5% of true value (1)

Units newton / N (1) [Accept: Newton(s)]

(c) Hang the unknown weight, S, on the opposite side to the 2.0N weight and once again balance the rule.



Record the values of a, b and c. [1]

All values recorded to 1 d.p. (1)

Use the above information, and your value for the weight of the rule in *(b)* to calculate the unknown weight. [3]

$2a = Wb + Sc$ (1) [or by impl.]

S calculated correctly (1)

*S correct to ± **0.2N of centre value** (1)*