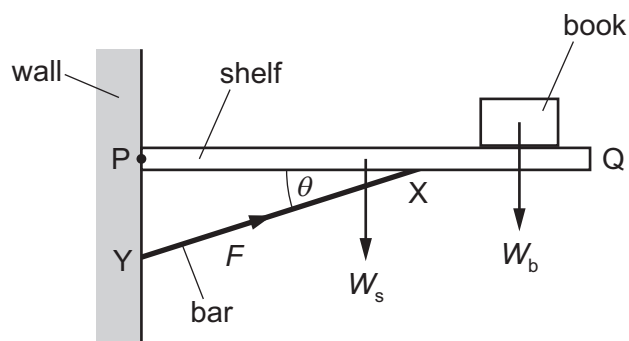


13 A shelf PQ is attached to a vertical wall at P and supports a book.

The shelf is held horizontal by a rigid bar XY, as shown.



The weight of the shelf is W_s and the weight of the book is W_b .

The bar is at an angle θ to the shelf and exerts a force F on the shelf.

The shelf is in equilibrium.

What are the magnitudes of the horizontal and the vertical components of the force of the wall on the shelf at P?

	horizontal component	vertical component
A	$F \cos \theta$	$(W_s + W_b - F \cos \theta)$
B	$F \cos \theta$	$(W_s + W_b - F \sin \theta)$
C	$F \sin \theta$	$(W_s + W_b - F \cos \theta)$
D	$F \sin \theta$	$(W_s + W_b - F \sin \theta)$