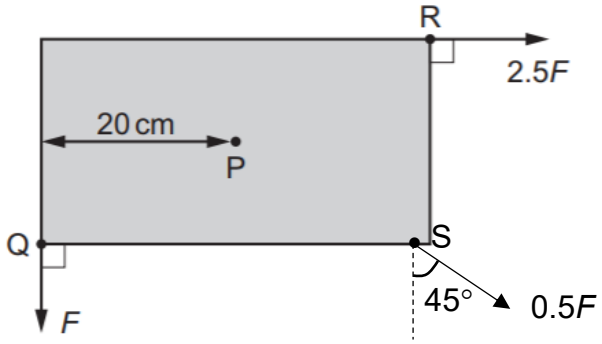
5

A uniform rectangular board is supported by a frictionless pivot at its centre point P.



Three forces act in the plane of the board in the direction as shown in the figure above. Force *F* acts at corner Q, force 2.5*F* acts at corner R and force 0.5*F* acts at corner S. The perpendicular distance between the line of action of force *F* and point P is 20 cm. The board is in equilibrium.

What is the area of the board?

A

160 cm^2

B

480 cm^2

C

640 cm^2

D

1600 cm^2