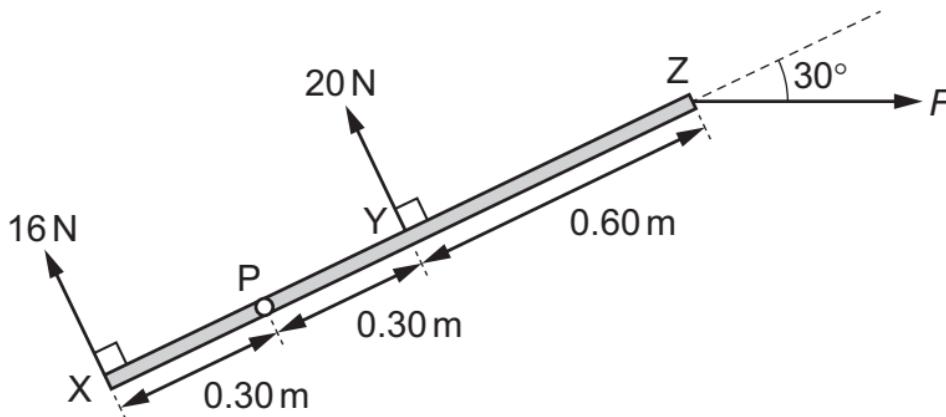


- 13 A uniform rigid bar XZ with negligible mass is 1.20 m long. The bar is pivoted at point P. Three coplanar forces act on the bar as shown. Forces of 16 N and 20 N act perpendicularly to the bar at points X and Y respectively. Force F acts at point Z at an angle of 30° to the axis of the bar.

The distances along the bar of the pivot and of the forces are shown.



The bar experiences a resultant moment about P of 6.0 N m in a clockwise direction.

What is the magnitude of F ?

- A 9.2 N B 11 N C 16 N D 24 N

- 14 Water flows at 0.20 m/s through a tube of 0.50 m inner diameter.