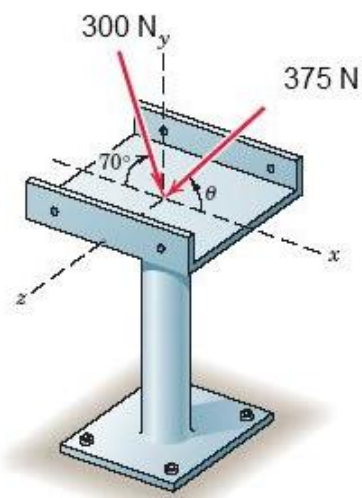**Answer on Question #69832-Physics-Mechanics-Relativity**

Two forces are applied to the construction bracket as shown. Determine the angle which makes the resultant of the two forces vertical. Determine the magnitude R of the resultant.

Solution

The magnitude R of the resultant is

$$R = \sqrt{\left(R_{xy}\right)^2 + (R_z)^2} = \sqrt{(300)^2 + (375)^2} = 480 \; N.$$

$$R_y = 300 \sin 70.$$

$$\sin \theta = \frac{R_y}{R}.$$

The angle which makes the resultant of the two forces vertical is

$$\theta = \sin^{-1} \frac{R_y}{R} = \sin^{-1}\left(\frac{300 \sin 70}{480}\right) = 36°.$$

Answer provided by www.AssignmentExpert.com