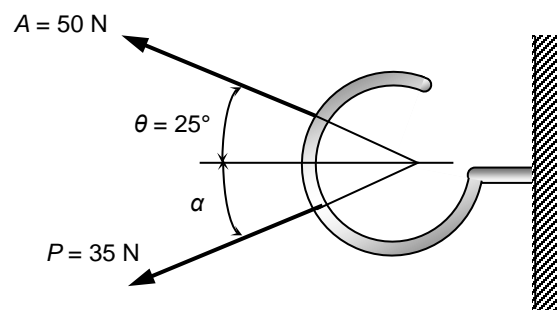

Example¹

Two forces are applied to a hook as shown. The magnitude of \mathbf{P} is 35 N. Using trigonometry,

- (a) find the required angle α such that the resultant \mathbf{R} is horizontal, and
- (b) the magnitude of \mathbf{R} .
- (c) Repeat (a) and (b) using vector components.

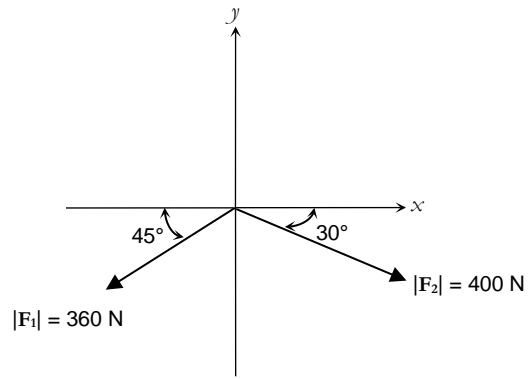


¹ From Beer and Johnston, *Vector Mechanics for Engineers, Statics*

Example

Given vectors \mathbf{F}_1 and \mathbf{F}_2 as shown, find the *resultant*. Express your answer

- (a) in Cartesian vector form, and
- (b) as a magnitude and an angle measured from the horizontal.



Example

Three forces act on the member as shown. Find the resultant, expressing it in Cartesian vector form.

