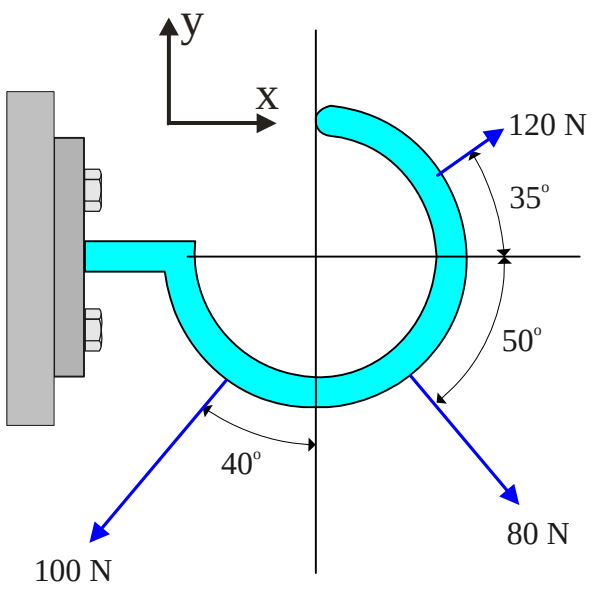
Example 2.7

J. Frye

Example 2.7:

Determine the resultant of the forces shown.



$$R_x = \sum F_x \rightarrow$$

$$120\cos 35^o + 80\cos 50^0 - 100\sin 40^o$$

$$= +85.44\text{N}$$

$$\therefore \mathbf{R_x} = 85.44\text{N} \rightarrow$$

$$R_y = \sum F_y \uparrow$$

$$120\sin 35^o - 80\sin 50^o - 100\cos 40^0$$

$$= -69.05\text{N}$$

$$\therefore \mathbf{R_y} = 69.05\text{N} \downarrow$$

$$R = \sqrt{R_x^2 + R_y^2} = \sqrt{85.44^2 + (-69.05)^2} = 109.86\text{N}$$

$\mathbf{R} = 109.86\text{N}$