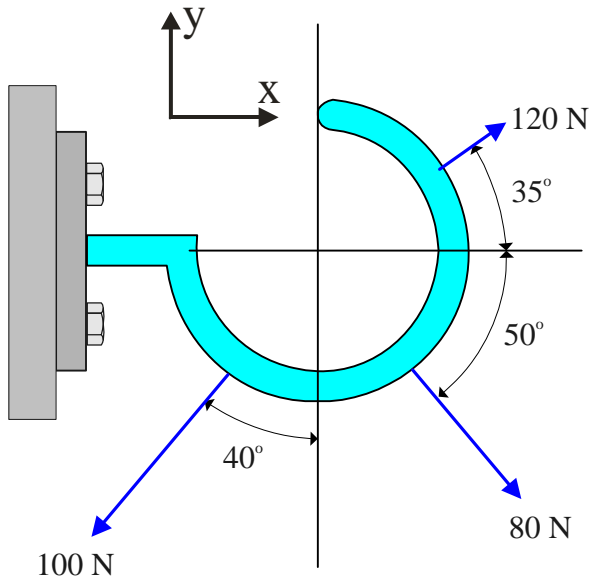


Example 2.7

J. Frye

Example 2.7:

Determine the resultant of the forces shown.



$$R_x = \sum F_x \rightarrow$$

$$120 \cos 35^\circ + 80 \cos 50^\circ - 100 \sin 40^\circ \\ = +85.44 \text{ N}$$

$$\therefore \mathbf{R}_x = 85.44 \text{ N} \rightarrow$$

$$R_y = \sum F_y \uparrow$$

$$120 \sin 35^\circ - 80 \sin 50^\circ - 100 \cos 40^\circ \\ = -69.05 \text{ N}$$

$$\therefore \mathbf{R}_y = 69.05 \text{ N} \downarrow$$

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

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

A vector diagram showing the resultant force \mathbf{R} acting downwards and to the right. The horizontal component is labeled 85.44 and the vertical component is labeled 69.05.