DATE

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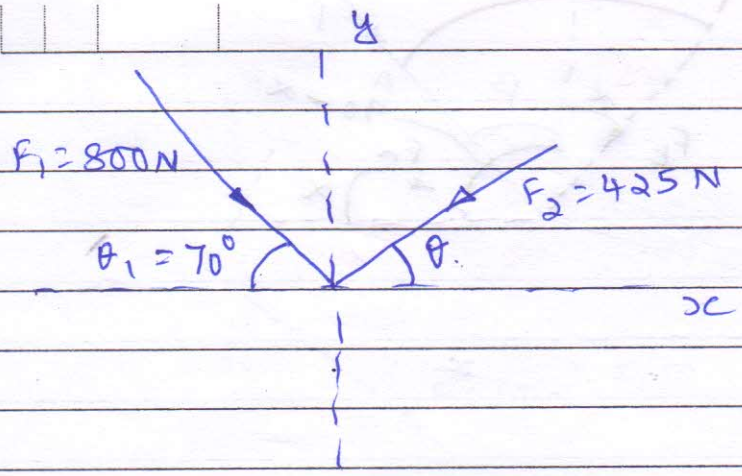

Given

Resultant of two forces - vertical

To find

Magnitude of R

Solution

$R = R_y = -F_1 \sin\theta_1 - F_2 \sin\theta$

$R_x = F_1 \cos\theta_1 - F_2 \cos\theta = 0$

$= 800 \cos 70^\circ - 425 \cos\theta = 0$

$\cos\theta = \frac{800 \cos 70^\circ}{425}$

$= \frac{273.62}{425}$

$\cos\theta = 0.644$

$\theta = \cos^{-1} 0.644$

$= 49.924^\circ$

$\therefore R = -800 \sin 70^\circ - 425 \sin 49.924$

$= -751.754 - 325.206$

$= -1076.960\ N$