

Solutionbank M1

Heinemann Modular Maths for Edexcel AS and A-level

4 Forces

Exercise D, Question 6

Question:

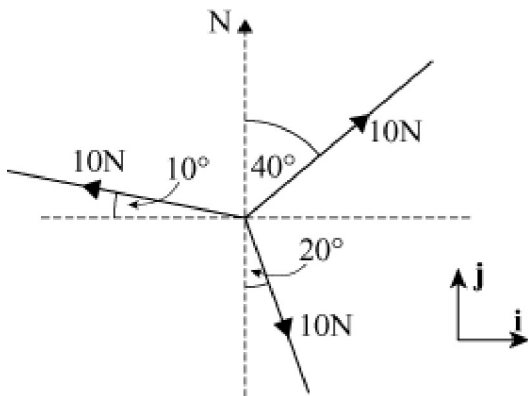
Three horizontal forces each of magnitude 10 N act in the directions of the bearings 040° , 160° and 280° . Find the magnitude of their resultant.

Solution:

$$\mathbf{R} = (10 \sin 40^\circ + 10 \sin 20^\circ - 10 \cos 10^\circ) \mathbf{i} + (10 \cos 40^\circ + 10 \sin 10^\circ - 10 \cos 20^\circ) \mathbf{j}$$

$$\text{i.e. } \mathbf{R} = 0\mathbf{i} + 0\mathbf{j}$$

$$\therefore |\mathbf{R}| = 0 \text{ N}$$



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