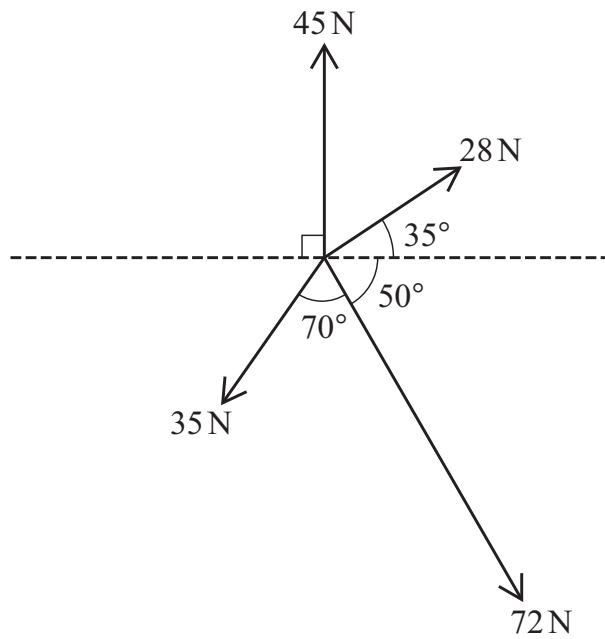


3



Coplanar forces of magnitudes 45 N, 28 N, 72 N and 35 N act at a point in the directions shown in the diagram.

Find, in either order, the magnitude and direction of the resultant force.

[6]

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and extend across the width of the page. At the bottom center, there is a small circle containing the number 1.

A diagram showing a particle P in equilibrium. Five forces act on it: a 20 N force acting up and to the left at an angle of 20° to the horizontal; a 30 N force acting up and to the right at an angle of 30° to the horizontal; a 15 N force acting down and to the right at an angle of 45° to the horizontal; a 25 N force acting vertically downwards; and an unlabeled force acting vertically upwards. A horizontal dashed line represents the line of action of the 20 N, 30 N, and 15 N forces. A right-angle symbol is shown between the vertical force and the horizontal dashed line.

Diagram illustrating a point P on a horizontal dashed line. A line segment extends downwards and to the right from P , ending at a point labeled SN . The angle between the dashed line and the segment PSN is labeled α° .

Four coplanar forces of magnitudes 20 N, 30 N, 15 N and 25 N act at a point P in the directions shown in Fig. 7.1. The forces act in a vertical plane. The resultant of these forces has magnitude S N and acts at an angle α° below the horizontal as shown in Fig. 7.2.

- [6]

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and extend across the width of the page. At the bottom center, there is a small, faint circular logo or watermark. The overall appearance is that of a clean, unused piece of stationery.

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A small ring of mass 0.6 kg is threaded on a rough straight horizontal wire. The four forces shown in Fig. 7.1 act on the ring and are in the same vertical plane as the wire. The ring starts from rest and takes 3 s to travel a distance of 2 m along the wire.

- (b)** Find the coefficient of friction between the ring and the wire. [5]

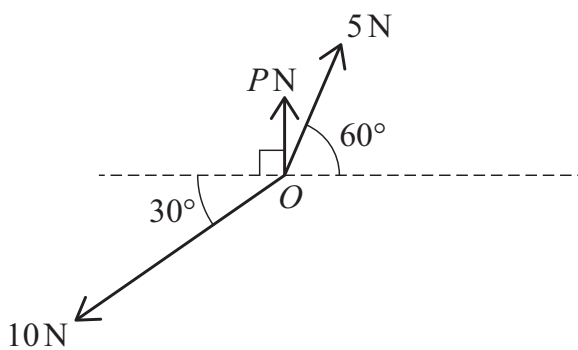
Handwriting practice sheet with 20 rows of dotted lines for tracing and writing.

Additional page

If you use the following page to complete the answer to any question, the question number must be clearly shown.

[illegible]

2



Three coplanar forces of magnitudes PN , 5 N and 10 N act at a point O , as shown in the diagram. The resultant of the three forces has magnitude QN and acts in a direction perpendicular to the force of magnitude PN .

Find the value of P and the value of Q .

[4]

[illegible]