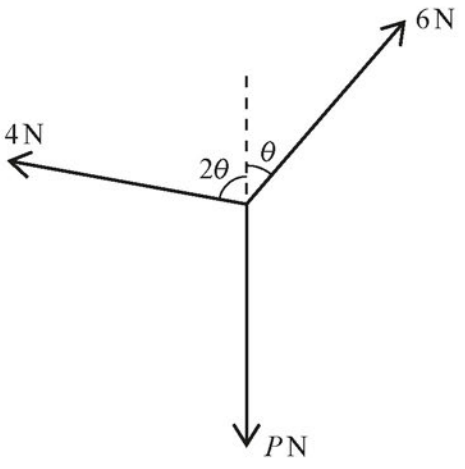
10 Three forces, of magnitudes 4 N, 6 N and P N, act at a point in the directions shown in the diagram.



The forces are in equilibrium.

(i) Show that $\theta = 41.4°$, correct to 3 significant figures. **[4]**

(ii) Hence find the value of P. **[2]**

The force of magnitude 4 N is now removed and the force of magnitude 6 N is replaced by a force of magnitude 3 N acting in the same direction.

(iii) Find

(a) the magnitude of the resultant of the two remaining forces, **[3]**

(b) the direction of the resultant of the two remaining forces. **[2]**