

9 Three forces $\begin{pmatrix} 7 \\ -6 \end{pmatrix}$ N, $\begin{pmatrix} 2 \\ 5 \end{pmatrix}$ N and \mathbf{F} N act on a particle.

Given that the particle is in equilibrium under the action of these three forces, calculate \mathbf{F} . **[2]**