

9 Two forces $(3\mathbf{i} + 2\mathbf{j})\text{ N}$ and $\mathbf{F}\text{ N}$ act on a particle P of mass 4 kg .

Given that the acceleration of P is $(-2\mathbf{i} + 3\mathbf{j})\text{ m s}^{-2}$, calculate \mathbf{F} . **[2]**