

3. [In this question, \mathbf{i} and \mathbf{j} are horizontal unit vectors.]

A particle P of mass m kg is moving on a smooth horizontal plane.

The particle P is moving under the action of two forces $(2\mathbf{i} - \mathbf{j})\text{ N}$ and $(c\mathbf{i} - 13.4\mathbf{j})\text{ N}$, where c is a constant.

The acceleration of P is $(10\mathbf{i} - 24\mathbf{j})\text{ m s}^{-2}$

Find the value of c .

(4)