

2.

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

A particle P of mass 5 kg is moving on a smooth horizontal plane.

The particle P is moving under the action of two forces $(\mathbf{i} + 2\mathbf{j})\text{N}$ and $(-c\mathbf{i} - 10\mathbf{j})\text{N}$, where c is a positive constant.

The magnitude of the acceleration of P is 2 m s^{-2}

Find the value of c

(5)