

3. [In this question, $\mathbf{i}$ and $\mathbf{j}$ are perpendicular unit vectors in a horizontal plane.]

A particle P is moving on a smooth horizontal surface under the action of two forces.

Given that

- the mass of P is 2 kg
- the two forces are $(2\mathbf{i} + 4\mathbf{j})\text{ N}$ and $(c\mathbf{i} - 2\mathbf{j})\text{ N}$, where c is a constant
- the magnitude of the acceleration of P is $\sqrt{5}\text{ ms}^{-2}$

find the two possible values of c .

(5)

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Page 6 of 12



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Question 3 continued

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Page 7 of 12

(Total for Question 3 is 5 marks)

