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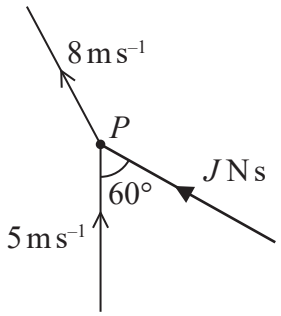


Figure 2

A particle P of mass 0.3 kg is moving with speed $5\,\text{m s}^{-1}$ along a straight line on a smooth horizontal plane. The particle receives a horizontal impulse of magnitude J N s. The speed of P immediately after receiving the impulse is $8\,\text{m s}^{-1}$. The angle between the direction of motion of P before it receives the impulse and the direction of the impulse is 60°, as shown in Figure 2.

Find the value of J.

(6)

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Question 4 continued

Q4

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