

2. A particle P has mass km and a particle Q has mass m . The particles are moving towards each other in opposite directions along the same straight line when they collide directly.

Immediately before the collision, P has speed $3u$ and Q has speed u .

As a result of the collision, the direction of motion of each particle is reversed and the speed of each particle is halved.

- (a) Find the value of k .

(4)

- (b) Find, in terms of m and u , the magnitude of the impulse exerted on Q in the collision.

(3)



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Question 2 continued

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Q2

(Total 7 marks)



P 6 8 7 8 3 A 0 5 2 8