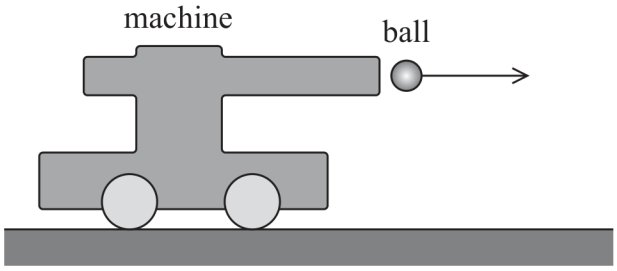
15 The diagram shows a machine used to launch tennis balls in a horizontal direction.

The machine is on frictionless wheels.



Before a tennis ball is launched, the machine is stationary.

(a) Explain, in terms of momentum, why the machine starts to move as the ball is launched.

(3)

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(b) Calculate the velocity of the machine just after the ball is launched.

velocity of ball = 4.5 m s^{-1}
mass of ball = 0.056 kg
mass of machine = 2.9 kg

(3)

Velocity of machine = ...

(Total for Question 15 = 6 marks)