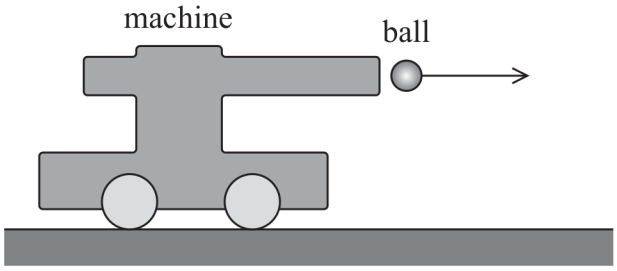
15 The diagram shows a machine used to launch tennis balls in a horizontal direction.

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)

(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)