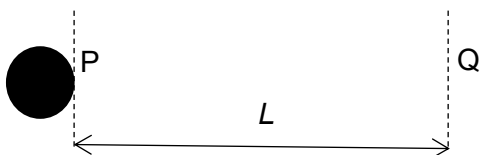


- 2 The momentum  $p$  of a rubber ball of mass  $m$ , as it rolls across a table surface at constant speed is given by the equation  $p = \frac{mL}{t_2 - t_1}$ , where

$t_1$  is the time at which the front end of the ball passes point P,

$t_2$  is the time at which the front end of the ball passes point Q.



Data from an experiment to determine  $p$  is recorded as follows:

$$m = (52.000 \pm 0.001) \text{ g}$$

$$L = (10.0 \pm 0.1) \text{ cm}$$

$$t_1 = (0.00 \pm 0.01) \text{ s}$$

$$t_2 = (0.63 \pm 0.01) \text{ s}$$

The momentum of the rubber ball should be recorded as

**A**  $(830 \pm 20) \text{ g cm s}^{-1}$

**B**  $(830 \pm 30) \text{ g cm s}^{-1}$

**C**  $(825 \pm 28) \text{ g cm s}^{-1}$

**D**  $(825 \pm 35) \text{ g cm s}^{-1}$

