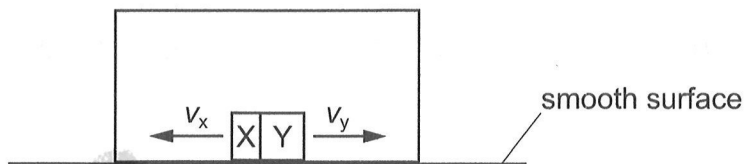


- 5 A container placed on a smooth surface contains an object at its centre. The object explodes into two pieces X and Y. Y has a greater mass than X.

X moves at speed  $v_x$  to the left, hitting the end of the container at time  $t_1$ .

Y moves to the right at speed  $v_y$ , hitting the other end at time  $t_2$ .



Which statement describes the motion of the centre of gravity of the system (X, Y and the container)?

- A It does not move.
- B It moves to the left after  $t_1$  and slows at  $t_2$ .
- C It moves to the left at  $t_1$  and stops at  $t_2$ .
- D It moves to the right after  $t_2$ .

