

- 10** Two experiments are carried out using two trolleys of equal mass. All moving parts of the trolleys are frictionless, as is the surface that the trolleys move over. In both experiments, trolley X moves towards trolley Y, which is initially stationary.



After the collision in experiment 1, X is stationary and Y moves off to the right.

After the collision in experiment 2, the trolleys join and move off together.

What types of collision occur in these experiments?

	experiment 1	experiment 2
<b>A</b>	elastic	elastic
<b>B</b>	elastic	inelastic
<b>C</b>	inelastic	elastic
<b>D</b>	inelastic	inelastic

- 11** A ball is thrown horizontally in still air from the top of a very tall building. The ball is affected by air resistance.

What happens to the horizontal and to the vertical components of the ball's velocity?

	horizontal component of velocity	vertical component of velocity
<b>A</b>	decreases to zero	increases at a constant rate
<b>B</b>	decreases to zero	increases to a constant value
<b>C</b>	remains constant	increases at a constant rate
<b>D</b>	remains constant	increases to a constant value

**Space for working**