

- 5** A sphere of mass 3.0 kg travelling due North at  $2.0 \text{ m s}^{-1}$  collides with another sphere of mass 4.0 kg travelling due East at  $2.0 \text{ m s}^{-1}$ .

The magnitude of their resultant momentum after the collision will be

- A**  $2.0 \text{ kg ms}^{-1}$ .
- B**  $10 \text{ kg m s}^{-1}$ .
- C**  $14 \text{ kg m s}^{-1}$ .
- D** dependent on whether the the collision is elastic or inelastic.

- 6** A block and a sphere of equal mass  $m$  are placed on an inclined plane. If the maximum frictional