

**Laws of motion and momentum**

| Specification reference | Checklist questions   |                          |
|-------------------------|---|--------------------------|
| 3.1.2 a i               | Can you use the equations of motion for constant acceleration in a straight line, including motion of bodies falling in a uniform gravitational field without air resistance? | <input type="checkbox"/> |
| 3.5.1 a                 | Can you explain Newton's three laws of motion?  | <input type="checkbox"/> |
| 3.5.1 b                 | Can you calculate linear momentum and understand the vector nature of momentum?   | <input type="checkbox"/> |
| 3.5.1 c                 | Can you understand that net force = rate of change of momentum?   | <input type="checkbox"/> |
| 3.5.1 d                 | Can you describe and calculate the impulse of a force?  | <input type="checkbox"/> |
| 3.5.1 e                 | Can you recall that impulse is equal to the area under a force–time graph?  | <input type="checkbox"/> |
| 3.5.2 a                 | Can you define the principle of conservation of momentum?   | <input type="checkbox"/> |
| 3.5.2 b                 | Can you describe and carry out calculations for collisions and interactions of bodies in one dimension and in two dimensions?   | <input type="checkbox"/> |
| 3.5.2 c                 | Can you describe perfectly elastic collisions and inelastic collisions?   | <input type="checkbox"/> |