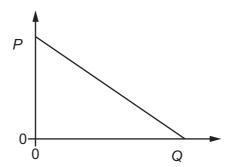
8 A rocket is fired from the Earth into space.

Newton's third law of motion describes how forces act in pairs. One of the forces of a pair is the weight of the rocket.

What is the other force of this pair?

- A air resistance
- **B** force of the exhaust gases on the rocket
- **C** force of the rocket on the exhaust gases
- **D** gravitational force of the rocket on the Earth
- **9** The graph shows how quantity *P* varies with quantity *Q* for a body falling vertically downwards in a uniform gravitational field with air resistance.



Which pair of quantities could be represented by *P* and *Q*?

| | Р | Q | |
|---|--------------|-------------------------|--|
| Α | acceleration | force of air resistance | |
| В | acceleration | time | |
| С | velocity | force of air resistance | |
| D | velocity | time | |

10 Which quantities are conserved in an inelastic collision?

| | kinetic energy | total energy | linear momentum |
|---|----------------|---------------|-----------------|
| Α | conserved | not conserved | conserved |
| В | conserved | not conserved | not conserved |
| С | not conserved | conserved | conserved |
| D | not conserved | conserved | not conserved |