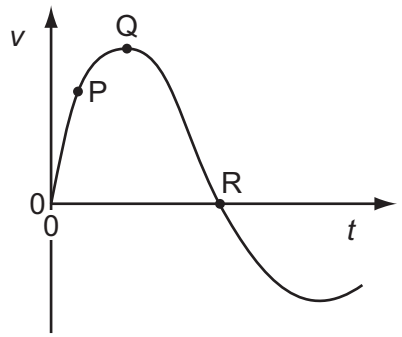
**7** The graph shows how velocity $v$ varies with time $t$ for a bungee jumper.




At which point is the bungee jumper momentarily at rest and at which point does she have zero acceleration?

| | jumper at rest | jumper with zero acceleration |
|---|---|---|
| **A** | Q | P |
| **B** | Q | R |
| **C** | R | Q |
| **D** | R | R |

**8** An aeroplane travels at an average speed of $600\,km\,h^{-1}$ on an outward flight and at $400\,km\,h^{-1}$ on the return flight over the same distance.

What is the average speed of the whole flight?

**A** $111\,m\,s^{-1}$ **B** $167\,m\,s^{-1}$ **C** $480\,km\,h^{-1}$ **D** $500\,km\,h^{-1}$

**9** What is meant by the mass and by the weight of an object on the Earth?

| | mass | weight |
|---|---|---|
| **A** | its momentum divided by its velocity | the work done in lifting it one metre |
| **B** | the gravitational force on it | the property that resists its acceleration |
| **C** | the pull of the Earth on it | its mass divided by the acceleration of free fall |
| **D** | the property that resists its acceleration | the pull of the Earth on it |

**Space for working**