

- 10** An astronaut of mass  $m$  in a spacecraft experiences a gravitational force  $F = mg$  when stationary on the launchpad. The spacecraft is launched vertically upwards with an acceleration of  $0.2g$ .

What is the gravitational force on the astronaut immediately after launch?

- A**  $1.2mg$                       **B**  $mg$                       **C**  $0.8mg$                       **D**  $0$

- 11** The gravitational field strength at the surface of Neptune is approximately equal to the gravitational field