

# 2024 Ph H1 Q11

**Section:** Particles and Waves

**Topic:** The Standard Model

## Brief summary of the question

Which of the following statements about leptons are correct?

## Worked solution

- Leptons are fundamental particles that do not experience the strong nuclear force.
- There are six types of lepton: electron, muon, tau, and the three neutrinos (electron neutrino, muon neutrino, tau neutrino).
- From the options, the correct statements are I and II.

## Final answer

B — I and II only.

## Revision tips

Leptons: no strong interaction; quarks: experience strong interaction.

Each lepton has a corresponding antiparticle.

Neutrinos have extremely small mass and no electric charge.