

Solutions

Each answer shows the steps, then the **result**.

2.1

- a photon colliding with an electron

2.2

- it increases (the wavelength gets longer)

2.3

- energy and momentum

3.1 B

3.2 B

3.3

(a)

- it decreases

(b)

- the photon transfers some energy to the electron; by conservation of energy the photon is left with less, so its frequency falls and wavelength grows