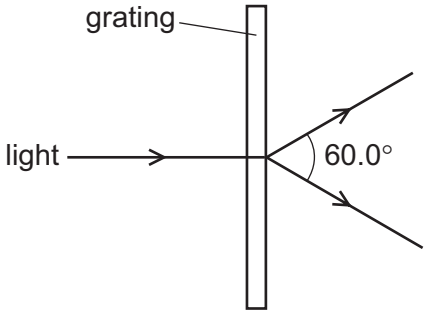
29 A diffraction grating is used to measure the wavelength of light.

The spacing of the slits in the grating is 1.15×10^{-6} m. The angle between the first-order diffraction maxima is 60.0°, as shown.



What is the wavelength of the light?

A 288 nm **B** 498 nm **C** 575 nm **D** 996 nm

30 What could **not** be used to create an electric current?

A alpha-particles

B beta-particles

C neutrons

D protons

31 What is the definition of the potential difference (p.d.) across a component?

A the energy transferred per unit charge

B the energy transferred per unit current

C the power transferred per unit charge

D the power transferred per unit current

32 The resistance of a filament lamp increases as the current in it increases.

What is the reason for this?

A The charge of each charge carrier increases.

B The potential difference across the filament decreases.

C The power dissipated by the filament decreases.

D The temperature of the filament increases.