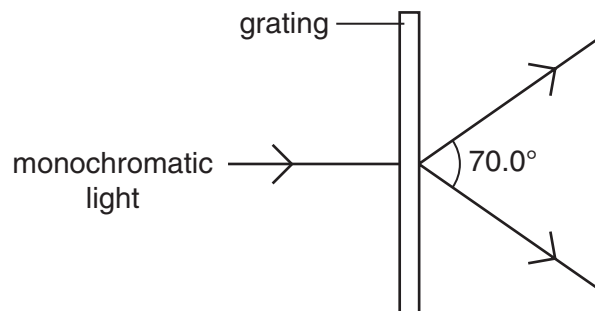


- 28** A diffraction grating is used to measure the wavelength of monochromatic light, as shown in the diagram.



The spacing of the slits in the grating is $1.00 \times 10^{-6} \text{ m}$. The angle between the first order diffraction maxima is 70.0° .

What is the wavelength of the light?

- A** 287 nm **B** 470 nm **C** 574 nm **D** 940 nm
- 29** What physical quantity would result from a calculation in which a potential difference is multiplied by an electric charge?
- A** electric current
B electric energy
C electric field strength
D electric power
- 30** The current in a component is reduced uniformly from 100 mA to 20 mA over a period of 8.0 s.
- What is the charge that flows during this time?
- A** 160 mC **B** 320 mC **C** 480 mC **D** 640 mC
- 31** The sum of the electrical currents into a point in a circuit is equal to the sum of the currents out of the point.
- Which of the following is correct?
- A** This is Kirchhoff's first law, which results from the conservation of charge.
B This is Kirchhoff's first law, which results from the conservation of energy.
C This is Kirchhoff's second law, which results from the conservation of charge.
D This is Kirchhoff's second law, which results from the conservation of energy.