

- 19** A single-slit diffraction pattern is formed on a screen 2.0 m away from the slit. The slit width is 0.30 mm, and light of wavelength 600 nm is used.

What is the linear distance between the first and third minima on one side of the central maximum?

- | | |
|-----------------|------------------|
| A 2.0 mm | B 4.0 mm |
| C 8.0 mm | D 12.0 mm |

- 20** A battery has e.m.f. $E = 12\text{ V}$ and internal resistance $r = 2.0\ \Omega$. The load resistor R is initially