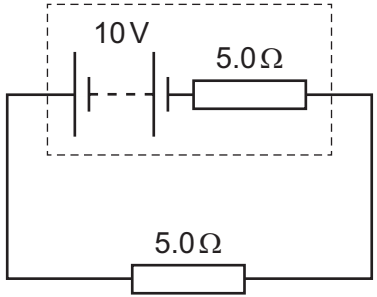
34 A battery of electromotive force (e.m.f.) 10 V and internal resistance 5.0 Ω is connected to a 5.0 Ω load resistor.



Which change occurs when the 5.0 Ω load resistor is replaced with a 50 Ω load resistor?

A The current in the circuit increases.

B The potential difference across the load resistor increases.

C The power dissipated in the internal resistance of the battery increases.

D The total power dissipated in the circuit increases.