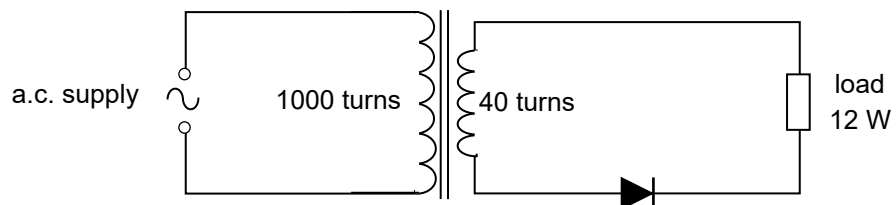28 The primary coil of an ideal transformer has 1000 turns and is connected to a sinusoidal a.c. supply. The secondary coil has 40 turns and is connected to an ideal diode and a load.

If the root-mean-square (r.m.s) voltage across the load is 6.5 V and the mean power dissipated in the load is 12 W, what is the r.m.s current in the primary coil?

A 0.026 A   **B** 0.074 A   **C** 0.10 A   **D** 0.15 A