5 A graph of the voltage input to an ideal transformer is shown in Fig. 5.1. The 45:1 step-down transformer has a mean input power of 25 W.

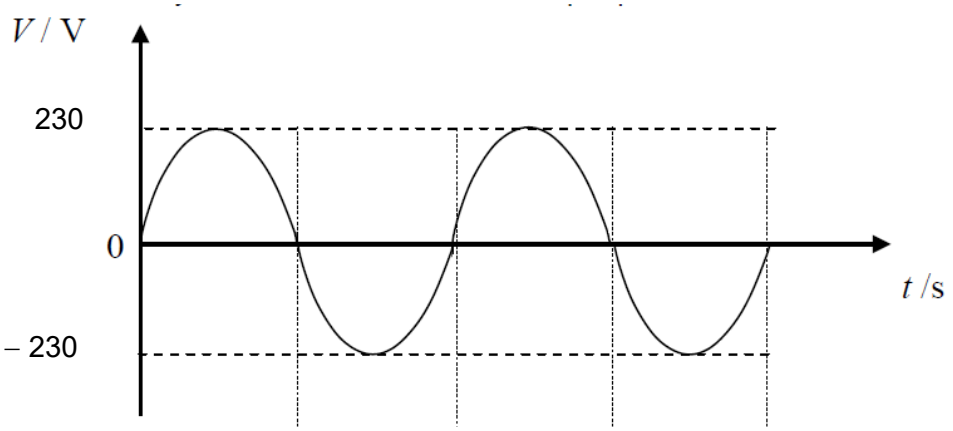

Fig. 5.1

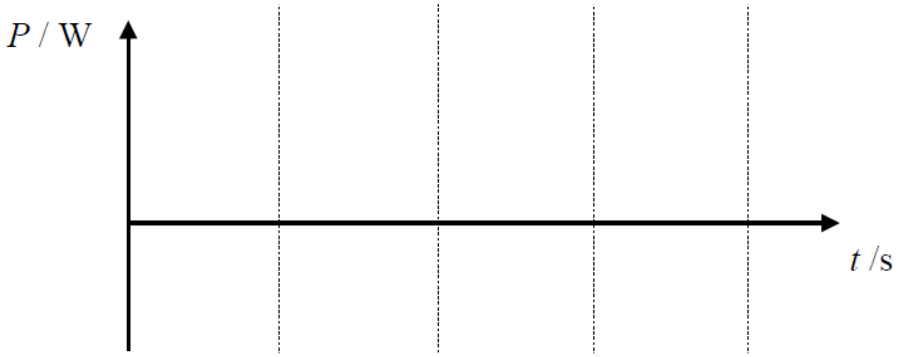

Fig. 5.2

(a) On the *P-t* graph in Fig. 5.2, sketch the variation of power input to the transformer with time for two complete cycles. Indicate the value for the maximum input power. [2]

(b) Calculate the r.m.s. value of the output voltage.

r.m.s. value of output voltage = ... V [3]