

7 A black body radiator of temperature  $T$  and surface area  $A$  has a luminosity  $L$ .

Which of the following is the luminosity of a black body radiator with surface area  $A/2$  and temperature  $2T$ ?

☐ **A**  $\frac{L}{2}$

☐ **B**  $L$

☐ **C**  $4L$

☐ **D**  $8L$

(Total for Question 7 = 1 mark)