The light from the sun is found to have a maximum intensity near the wavelength of 470 nm. *Assuming that the surface of the sun emits as a blackbody, calculate the temperature of the surface of the sun.*

By Wien's displacement law:-

$\lambda_{max} T = b$; where b is Wien's constant

$$\Rightarrow \quad T = \frac{b}{\lambda_{max}} \Rightarrow \frac{0.288\,cm\,K}{470\,nm}$$

$$\Rightarrow \frac{2.88 \times 10^{-3}\,mK}{470 \times 10^{-9}\,m.}$$

$$\Rightarrow \quad \boxed{T = 6130\,K}$$