Question Number	Answer		Mark
15	λ_{max} read from graph [450 nm → 500 nm]	(1)	
	Use of $\lambda_{max}T = 2.898 \times 10^{-3}$ m K	(1)	
	Use of $L = \sigma A T^4$	(1)	
	Use of $A = 4\pi r^2$	(1)	
	$D_\text{P} = 4.6 \times D_\text{Sun}$ so statement is incorrect Or $D_\text{P} = 3.2 \times 10^9$ m, which is more than twice Sun's diameter, so statement is incorrect	(1)	**5**
	Example of calculation $T = \dfrac{2.898 \times 10^{-3} \text{ m K}}{470 \times 10^{-9} \text{ nm}} = 6170 \text{ K}$ $A = \dfrac{2.65 \times 10^{27} \text{ W}}{5.67 \times 10^{-8} \text{ W m}^{-2} \text{ K}^4 \times (6170 \text{ K})^4} = 3.22 \times 10^{19} \text{ m}^2$ $r = \sqrt{\dfrac{3.22 \times 10^{19} \text{ m}^2}{4\pi}} = 1.60 \times 10^9 \text{ m}$ $\dfrac{D_\text{P}}{D_\text{Sun}} = \dfrac{2 \times 1.60 \times 10^9 \text{ m}}{6.96 \times 10^8 \text{ m}} = 4.6$		
	Total for question 15		**5**