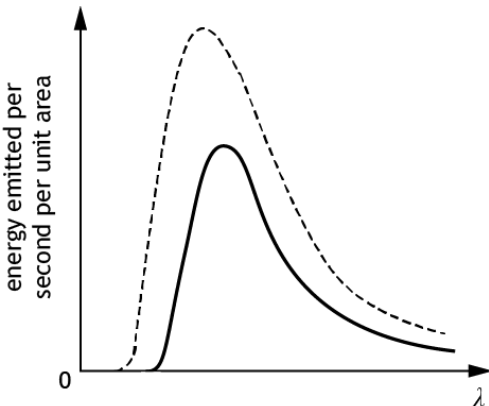


Question			Expected response	Max mark	Additional guidance
6.	(a)			2	Peak wavelength less (1) Line added should always be above original line (1)
	(b)		$7700 \times 3.76 \times 10^{-7} = 2.9 \times 10^{-3}$ $8500 \times 3.42 \times 10^{-7} = 2.9 \times 10^{-3}$ $9600 \times 3.01 \times 10^{-7} = 2.9 \times 10^{-3}$ $12000 \times 2.42 \times 10^{-7} = 2.9 \times 10^{-3}$ (2) therefore $T \times \lambda_{peak} = 2.9 \times 10^{-3}$ (1)	3	All four calculations correct (2) Three correct calculations (1) < Three correct calculations (0) $7700 \times 3.76 \times 10^{-7} = 2.895 \times 10^{-3}$ $8500 \times 3.42 \times 10^{-7} = 2.907 \times 10^{-3}$ $9600 \times 3.01 \times 10^{-7} = 2.890 \times 10^{-3}$ $12000 \times 2.42 \times 10^{-7} = 2.904 \times 10^{-3}$ therefore $T \times \lambda_{peak} = 2.9 \times 10^{-3}$ (1) This 'conclusion' mark is only available if consistent with the calculations shown. For 'finding the constant' method, accept restatement of relationship for final mark. Alternative methods: Can calculate the temperatures or wavelengths using the relationship. Final mark is given for a statement that the calculated temperatures or wavelengths match values in the table. Graphical method: Graph drawn correctly (1) Gradient calculated (1) restatement of relationship (1)