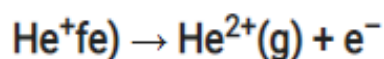


## Related Problems

### Question 2

Calculate the energy required for the process :



The ionisation energy' for the H atom in the ground state is  $2.18 \times 10^{-18} \text{ J atom}^{-1}$

**Answer:**

The expression for the ionisation energy atom :

$$E_n = \frac{2.18 \times 10^{-18} \times Z^2}{n^2} \text{ J atom}^{-1}$$

For H atom ( $Z = 1$ ),  $E_n = 2.18 \times 10^{-18} \times (1)^2 \text{ J atom}^{-1}$  (given)

For  $\text{He}^+$  ion ( $Z = 2$ ),  $E_n = 2.18 \times 10^{-18} \times (2)^2 = 8.72 \times 10^{-18} \text{ J atom}^{-1}$  (one electron species)