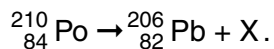


- 7 (a) The spontaneous decay of polonium is shown by the nuclear equation



- (i) State the composition of the nucleus of X.

.....  
.....[1]

- (ii) The nuclei X are emitted as radiation. State two properties of this radiation.

1. ....  
.....  
2. ....  
.....  
[2]

- (b) The mass of the polonium (Po) nucleus is greater than the combined mass of the nuclei of lead (Pb) and X. Use a conservation law to explain qualitatively how this decay is possible.

.....  
.....  
.....[3]

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