

3 a Complete the table below to show the subatomic particles present in these atoms.

| Element | Protons | Neutrons | Electrons | Nucleon number |
|---------|---------|----------|-----------|----------------|
| Li | | 4 | | 7 |
| Na | | | 11 | 23 |
| P | 15 | | | 31 |
| Pb | | | 82 | 207 |

b Chlorine atoms come in two forms: ^{37}Cl and ^{39}Cl .

i How do you know that they are both atoms of the same element?

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ii What is the difference between the two types, or isotopes, of chlorine?

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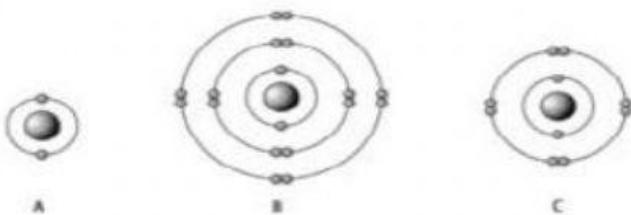
iii Which element is ^{14}X an isotope of?

^{12}C ^{13}C

Explain your answer.

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a Diagrams A, B and C represent the atoms of three elements. Name the elements.

A..... B..... C.....

b These elements are all very unreactive gases. What can be said about the electron arrangements of these atoms?

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