

Sarah Betancourt and Nick Mullin

Chapter 4 Review - Key

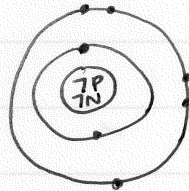
1 Dalton C

Democritus D

Thompson B

Rutherford A

- 2 An atom is the smallest particle of an element that retains the properties of that element.



- 3 He formalized and made it more scientific using observations.

4 3.819×10^{-23} g

- 5 a) In the nucleus; positively charged; number of protons determines the element; has mass
 b) In the nucleus; no charge; has mass
 c) In energy shells; move around quickly; negatively charged; react with other elements

6 Protons: 6

Neutrons: 6

- 7 An element having more or fewer neutrons than the original element. Isotopes are not always very stable in nature.

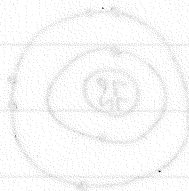
8 Protons: 19

Neutrons: 6

$$9 \frac{(90 \cdot 6) + (10 \cdot 1.157)}{100} = 5.5157 \text{ amu}$$

10 Protons: 20

Neutrons: 21



3 He formulated and made it more scientific

used operations.

$$p \cdot 1.67 \times 10^{-27} \text{ kg}$$

2 a) in the nucleus; positively charged; number of

protons determines the element; has mass

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c) in energy shells; move around quickly; negatively

charged; react with other elements

p Protons: 19

n Neutrons: 6

7 An element having more or less neutrons than

the original element isotopes are not always

very stable in nature.