

AIM: UNDERSTAND MODELS OF THE ATOM

CHEMICAL SYMBOL - SHORTHAND WAY TO
WRITE THE NAME OF ELEMENTS,

EX. Na, H, O, Ca

FIRST LETTER CAPITALIZED

SECOND LETTER LOWERCASE (IF THERE IS ONE)

THREE LETTERS = TEMPORARY NAME

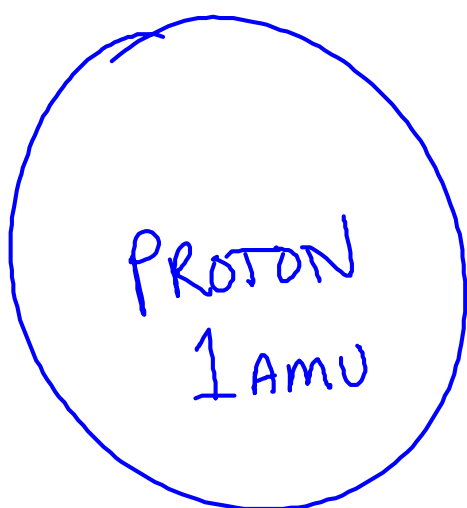
ATOM - SMALLEST PARTICLE OF AN
ELEMENT THAT HAS THE PROPERTIES
OF THAT ELEMENT

ATOMS ARE BUILDING-BLOCKS OF MATTER

Protons and Neutrons are made of
smaller particles called Quarks; Up,
Down, Top, Bottom, Charm, and
Strange.

PARTICLES INSIDE AN ATOM

PARTICLE	CHARGE	LOCATION	MASS	SYMBOL
PROTON	$+$ (POSITIVE)	INSIDE NUCLEUS	1 A.M.U.	p^+
NEUTRON	0 (NO CHARGE)	INSIDE NUCLEUS	1 A.M.U.	n^0
ELECTRON	$-$ (NEGATIVE)	OUTSIDE NUCLEUS	0 A.M.U.	e^-



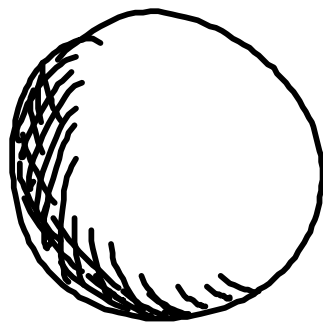
AMU-Atomic Mass Unit. Measures the mass of atomic particles.

ELECTRON

0.0000000000997 AMU
ALMOST 0 AMU

MODEL OF ATOMS

1803 - DALTON



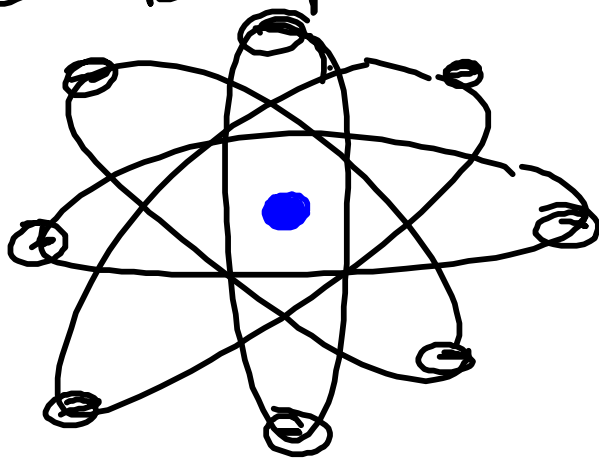
← SOLID SPHERE

1897 - THOMSON



← "POSITIVE JELLY-
SPHERE"
← NEGATIVE CHARGES

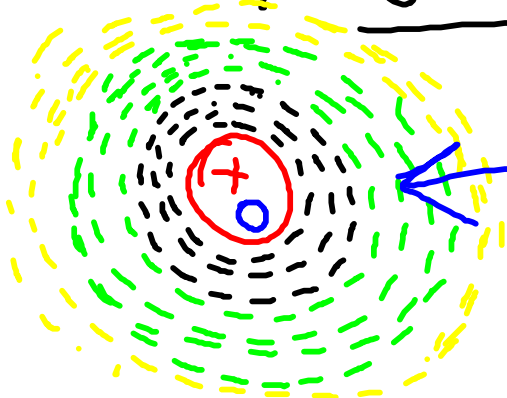
1913 - BOHR



MOSTLY
EMPTY SPACE



PRESENT DAY - ELECTRON CLOUD MODEL



ENERGY LEVELS IN A
"CLOUD"



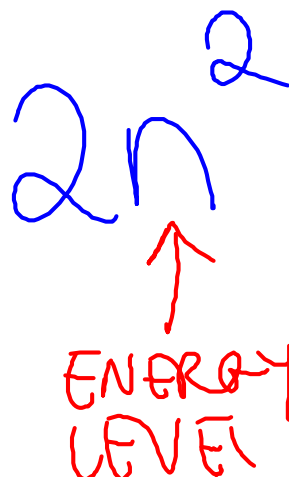
Maximum Numbers of electrons.

1st energy level=2

2nd energy level=8

3rd energy level=18

4th energy level=32



7
N
14.0067

Atomic Number (7p⁺)
How many protons
How many electrons (7e⁻)

ROUND
SUBTRACT
14
- 7
7

7 p⁺
7 n^o

START

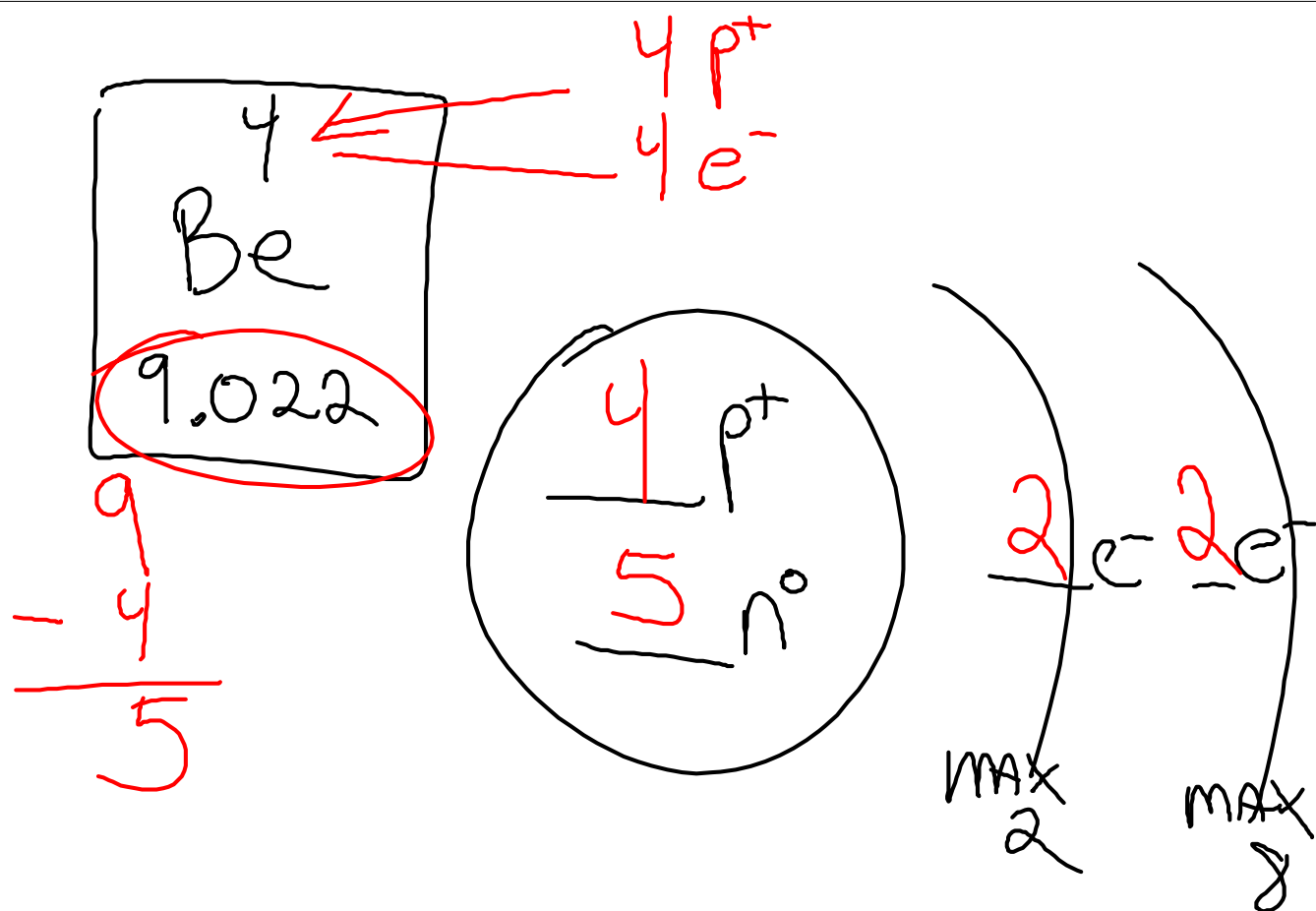
2e⁻
MAX 2

5e⁻
MAX 8

MAX 18

SAME
NUMBER

8

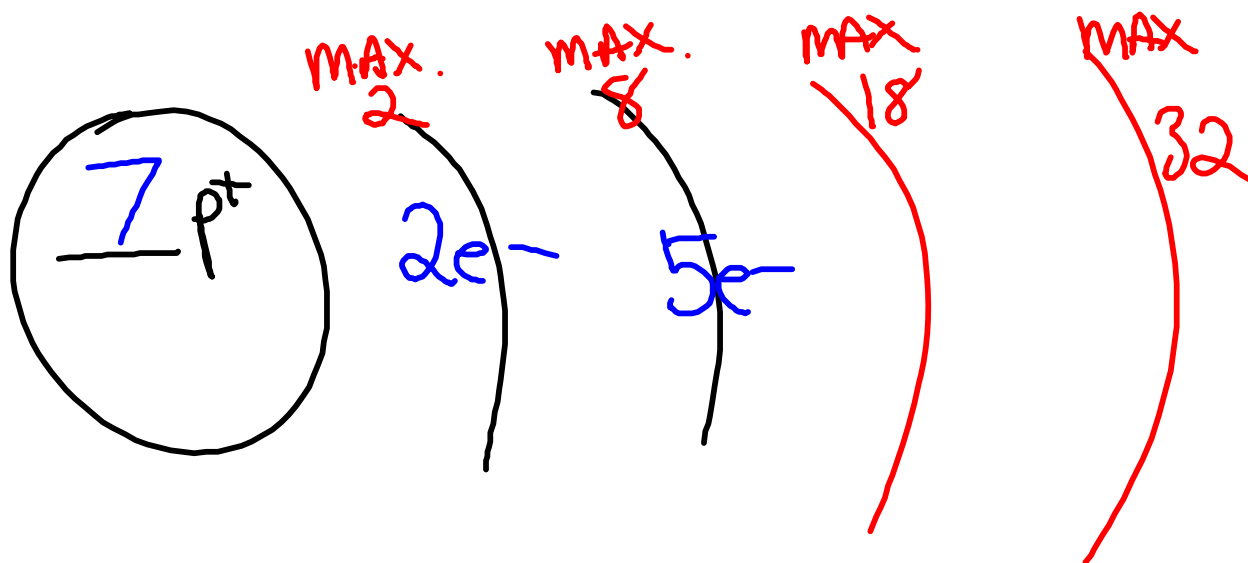


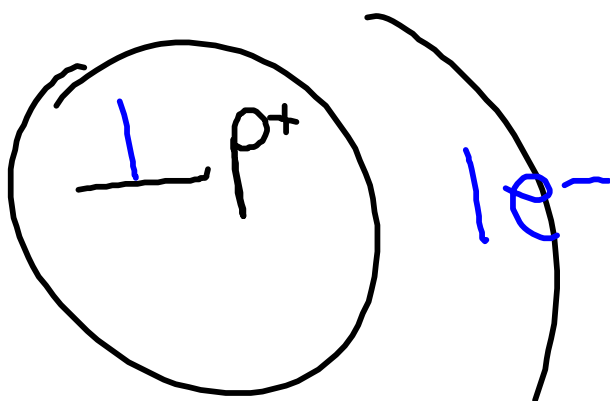
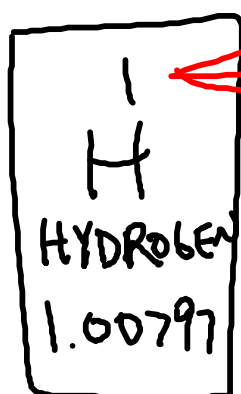


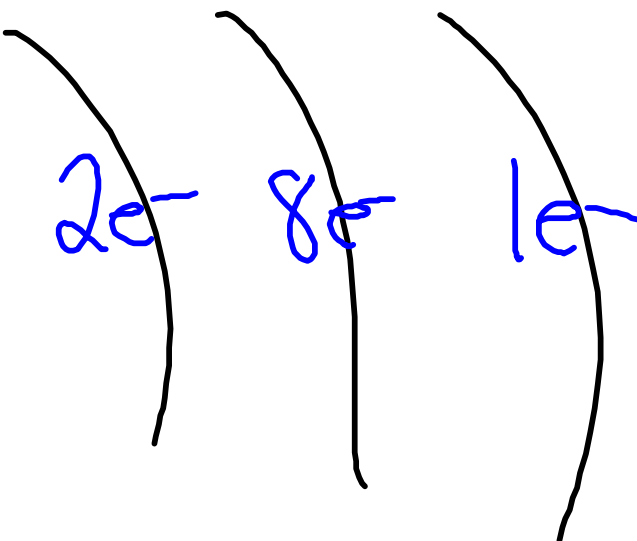
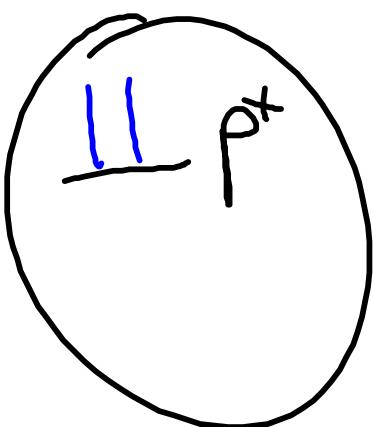
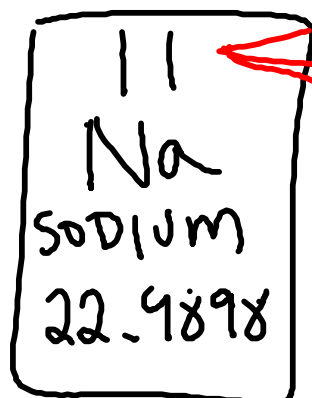
← ATOMIC NUMBER

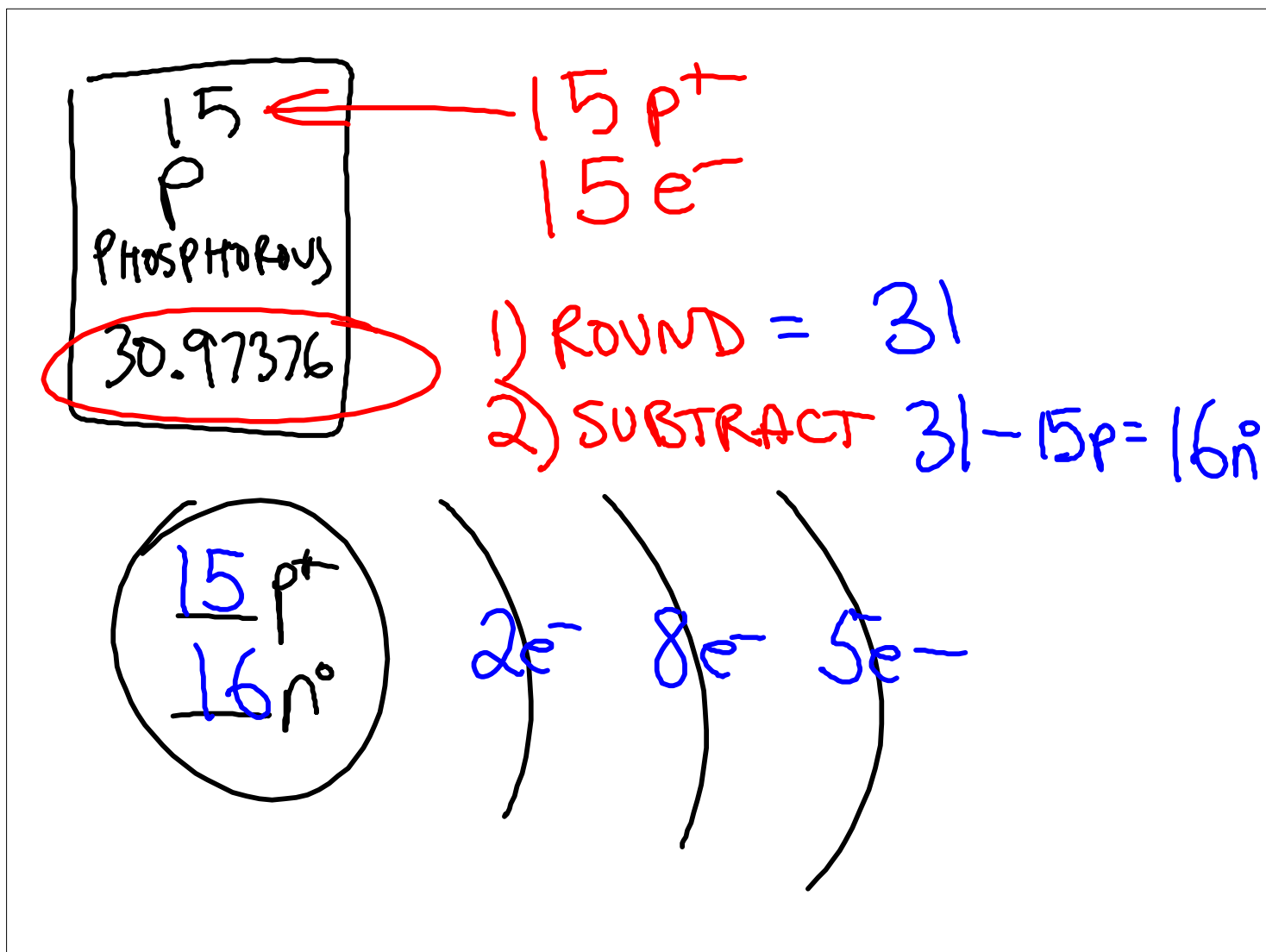
7 PROTONS

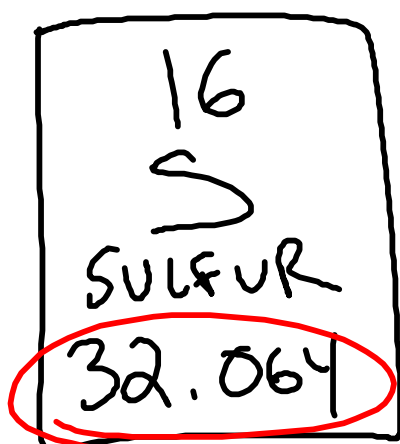
7 ELECTRONS



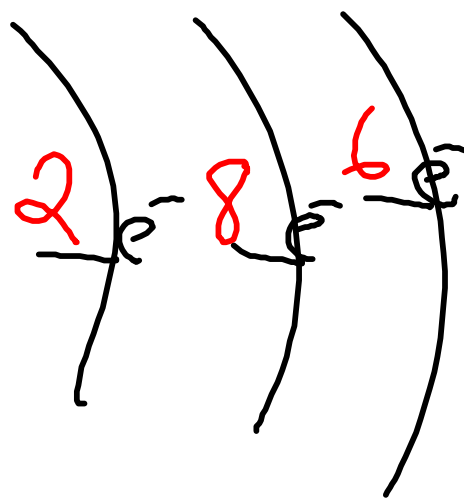








$$\begin{array}{r} 32 \\ -16 \\ \hline 16n^{\circ} \end{array}$$





Online Periodic Table

