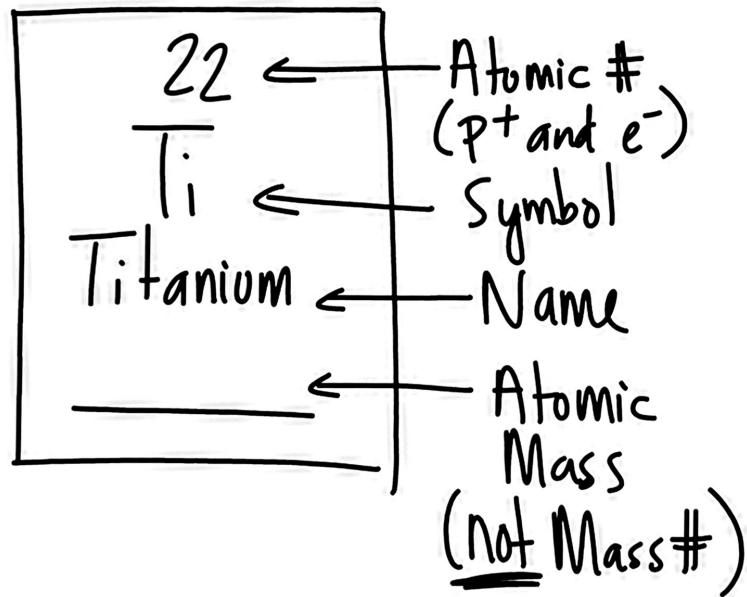


Atom: neutral. ($\# + = \# -$)
Z-ratio
 $P^+ : n^0$
 $P^+_{(inside)} = e^-_{(outside)}$

<u>small</u>	<u>med.</u>	<u>large</u>
1:1	1:1.2	1:1.5
1 ~ 20	21 ~ 50	51 ~ 82
no stable isotopes after 82 (Pb, Lead)		



Isotope ($n^0 : p^+ / e^-$)

$$\text{Mass\#} = p^+ + n^0$$

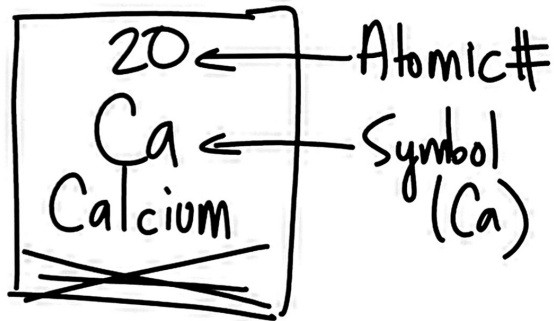


Titanium - 48
(element) (Mass#)

$$n^0 = \text{Mass\#} - \text{Atomic\#}$$

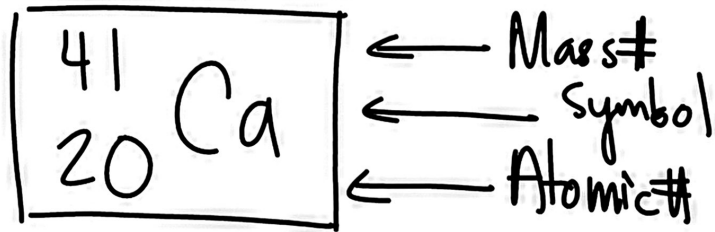
Calcium; $n^{\circ} = 21$

Symbol, p^{+} , e^{-} , $A^{\#}$



$$p^{+} = 20 \quad e^{-} = 20$$

$$\begin{aligned} \text{Mass\#} &= p^{+} + n^{\circ} \\ &= 20 + 21 \\ &= 41 \end{aligned}$$



$$\text{Atomic \#} = 26 \quad \text{Mass \#} = 56$$

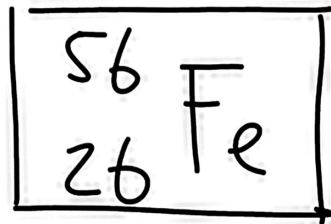
[element, symbol, p^+ , e^-]

$$p^+ = 26 \quad e^- = 26$$



← symbol
name

Mass
→
Atomic
→



$$n^0 = \text{Mass \#} - \text{Atomic \#}$$

$$n^0 = 56 - 26$$

$$= \underline{30}$$