

$^{238}_{92}\text{Tl}$ 47.935878 amu MASS.

$22p = 22(1.0072765)$
 $26n = 26(1.008665)$
 \hline
 48.385373 amu Calculate MASS
 \hline
 47.935878 amu Given MASS
 $\Delta m = 0.449495 \text{ amu}$

Mass defect

0.449495 amu	1g	1kg	= $7.463 \times 10^{-28} \text{ kg}$
	$6.023 \times 10^{23} \text{ amu}$	1000g	

$E = \Delta m c^2$
 $E = (7.463 \times 10^{-28} \text{ kg}) \left(\frac{3 \times 10^8 \text{ m}}{\text{sec}} \right)^2 = 6.72 \times 10^{-11} \text{ J}$

B.E.
 $\frac{\text{B.E.}}{\text{nucleon}} = \frac{6.72 \times 10^{-11} \text{ J}}{48} = 1.4 \times 10^{-12} \text{ J/nucleon}$

Apr 19-7:31 AM

Fusion
SUN

$^2_1\text{H} + ^2_1\text{H} \rightarrow ^4_2\text{He} + \text{energy}$

Coldest 40,000,000 K

Apr 19-8:58 AM

RBE - Relative Biological Effectiveness

Genetic + Somatic.
offspring now

RAD - Radiation Absorbed Dose.

$$\text{REM} = \text{RAD} \times \text{RBE}$$

Roentgen Equivalent for Man

Apr 19-9:09 AM

HW 21/58

Finish PS 21-1

#23 → 30

Apr 19-9:15 AM