Name_____

What you will miss the most about TuHS_____Physics_____

_____Murray_____Dedicated_____

Show your work, circle your answers, and use sig figs to receive full credit.

$1 u = 1.6605E-27$ kg $= 931.5$ MeV, $^1_1H = 1.007825$ u, $^1_0n = 1.008665$ u

1. What is the binding energy and the binding energy per nucleon of Ca-44?

2. Fill in the table (not all these reactions occur)

$^{16}_8O$ (α , t) ??	?? (p , n) $^{239}_{94}Pu$	$^{16}_8O$ (α , ??) $^{19}_{10}Ne$	$^{28}_{14}Si$ (?? ,n) $^{28}_{15}P$
$^{17}_9F$	$^{239}_{93}Np$	^1_0n	^1_1p

3. Find the Q value for this nuclear reaction: $^7_3Li(t,n)^9_4Be$. Label the reaction as either energy requiring (endoergic) or energy releasing (exoergic) (you will have to look up the masses in the table...)

4-5: Consider this fission reaction: $^{235}_{92}U + ^1_0n \rightarrow ^{148}_{57}La + ^{85}_{35}Br +$ some neutrons

U-235 = 235.043923 u, La-148 = 147.932191 u, Br-85 = 84.915608 u (These masses will be given to you here)

4. How many neutrons are released? (3)

5. What is the Q value for this reaction?