

BALANCING NUCLEAR REACTIONS WORKSHEET

Predict the missing product or reactant in the following nuclear reactions. Determine the type of nuclear reaction (α emission, β emission (+ or -), γ emission, electron capture, other)

Type of Nuclear Reaction

- ${}_{19}^{42}\text{K} \rightarrow {}_{-1}^0\text{e} + \underline{\hspace{2cm}}$
- ${}_{94}^{239}\text{Pu} \rightarrow {}_2^4\text{He} + \underline{\hspace{2cm}}$
- ${}_{92}^{235}\text{U} \rightarrow {}_{90}^{231}\text{Th} + \underline{\hspace{2cm}}$
- ${}_1^1\text{H} + {}_1^3\text{H} \rightarrow \underline{\hspace{2cm}}$
- ${}_3^6\text{Li} + {}_0^1\text{n} \rightarrow {}_2^4\text{He} + \underline{\hspace{2cm}}$
- ${}_{13}^{27}\text{Al} + {}_2^4\text{He} \rightarrow {}_{15}^{30}\text{P} + \underline{\hspace{2cm}}$
- ${}_4^9\text{Be} + {}_1^1\text{H} \rightarrow \underline{\hspace{2cm}} + {}_2^4\text{He}$
- ${}_{19}^{37}\text{K} \rightarrow \underline{\hspace{2cm}} + {}_{+1}^0\text{e}$
- $\underline{\hspace{2cm}} + {}_0^1\text{n} \rightarrow {}_{56}^{142}\text{Ba} + {}_{36}^{91}\text{Kr} + 3{}_0^1\text{n}$
- ${}_{92}^{238}\text{U} + {}_2^4\text{He} \rightarrow \underline{\hspace{2cm}} + {}_0^1\text{n}$
- ${}_6^{14}\text{C} \rightarrow \underline{\hspace{2cm}} + {}_7^{14}\text{N}$
- ${}_{75}^{187}\text{Re} + \underline{\hspace{2cm}} \rightarrow {}_{75}^{188}\text{Re} + {}_1^1\text{H}$
- ${}_{11}^{22}\text{Na} + \underline{\hspace{2cm}} \rightarrow {}_{10}^{22}\text{Ne}$
- ${}_{84}^{218}\text{Po} \rightarrow \underline{\hspace{2cm}} + {}_2^4\text{He}$
- ${}_{99}^{253}\text{Es} + {}_2^4\text{He} \rightarrow \underline{\hspace{2cm}} + {}_0^1\text{n}$
- ${}_4^7\text{Be} + {}_{-1}^0\text{e} \rightarrow {}_3^7\text{Li} + {}_0^0\gamma$