

NAME _____

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See due date on Website Syllabus

ANSWER ON THIS PAGE ONLY

USE TABLE 1 (Energy levels of electrons...) on the website to address questions 1-3 below:

1. How much energy must an incoming particle (electron in this case) have in order to eject a K shell electron from Ge?

ANS: _____

2. What is the energy of the $K\alpha$ x-ray for Mn, assuming the transition comes from its L_{II} shell?

ANS: _____

2(b). Which $K\alpha$ x-ray is this, $K\alpha_1$ or $K\alpha_2$?

ANS. _____

3. Draw the Bohr model for the Fe atom, with only the K, L, and M (up to M_{II}) levels included, with numbers.

4. Calculate the frequency (per second) and energy (in joules) of x-rays of wavelength $0.71\text{\AA}$ ($\text{MoK}\alpha$), $2.29\text{\AA}$ ($\text{Cr K}\alpha$) and $1.54\text{\AA}$ ($\text{Cu K}\alpha$)?