Kα x-ray emitted from a sample with 7.46 keV. What is the element?

\[ E_{Kα} = (Z-1)^2 \times (10.2 \text{ eV}) \]

Solve for \( Z \):

\[ (Z-1)^2 = \frac{E_{Kα}}{10.2 \text{ eV}} \]

\[ Z-1 = \sqrt{\frac{E_{Kα}}{10.2 \text{ eV}}} \]

\[ Z = 2 + \sqrt{\frac{10.2 \times 10^3 \text{ eV}}{10.2 \text{ eV}}} \]

\[ Z = 28 \]

This is Nickel (Ni).