

Worksheet 1.1: Solutions

Using nuclide symbol notation

No.	Answer
1	a 98 b 154
2	${}^{63}_{28}\text{Ni}$
3	a 94 protons, 147 neutrons and 93 electrons b 92 protons, 143 neutrons and 90 electrons
4	18
5	${}^{12}_6\text{C}$
6	${}^{121}_{51}\text{Sb}^{2+}$
7	a They have the same number of protons and electrons. b They react in the same way due to having the same electron configuration.
8	${}^{88}_{38}\text{Sr}$ and ${}^{88}_{39}\text{Y}$ have different chemical properties, due to their different numbers of valence electrons. ${}^{88}_{38}\text{Sr}$ and ${}^{86}_{38}\text{Sr}$ are isotopes, and so are harder to separate as they have identical chemical properties.
9	${}^{23}_{11}\text{Na}^+$ or ${}^{24}_{12}\text{Mg}^{2+}$ or ${}^{27}_{13}\text{Al}^{3+}$
10	${}^{32}_{16}\text{S}^{2-}$ and ${}^{35}_{17}\text{Cl}^-$