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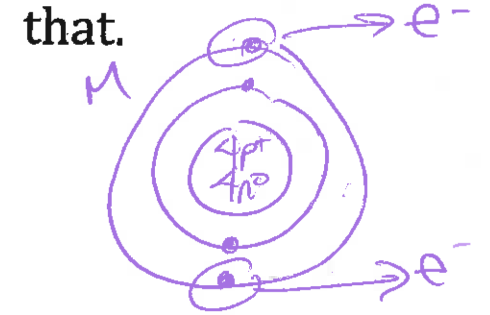
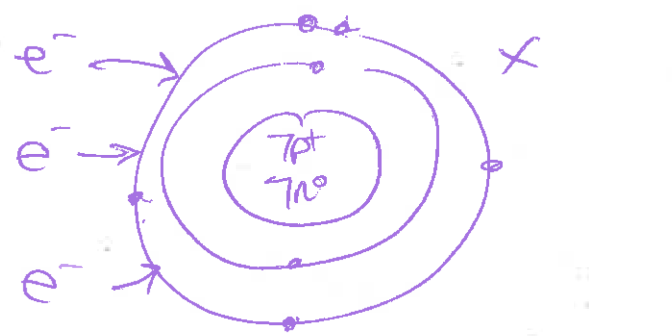
Challenge Problem

Two elements are to be combined to form a balanced compound. The first element, M (fictitious), has two electrons in it's outermost ring. The second (fictitious) element, X, has 5 electrons in its outermost ring. Show (using Bohr models) and describe (using words) how many M's and how many X's will come together to form a balanced ionic compound. Both elements would like 8 electrons in their outermost shell and will gain or lose to achieve that.





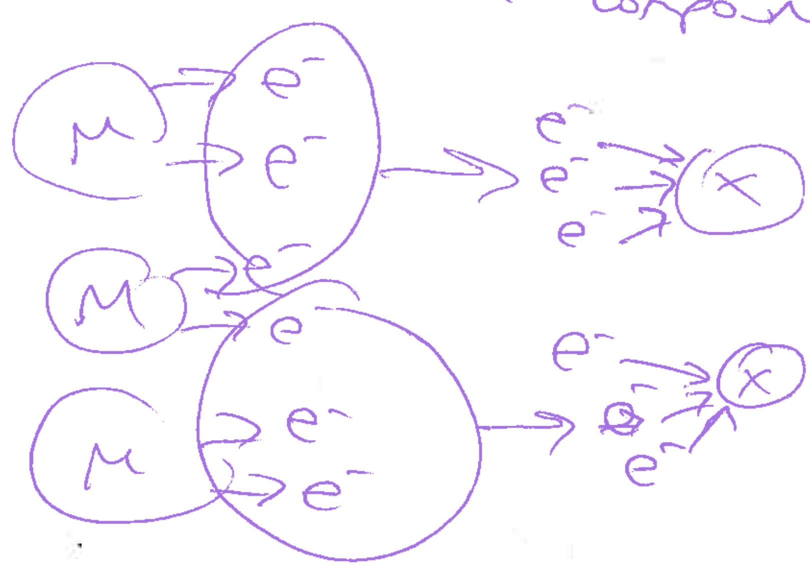
has $2e^-$ in valence shell wants 8 (2) so gives up $2e^-$

has 5 e^- in valence shell wants 8 So takes 3

if we use 3 M's & 2 X's ~~of the~~ we will form a neutral compound.

$M = M^{2+}$

$X = X^{3-}$



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