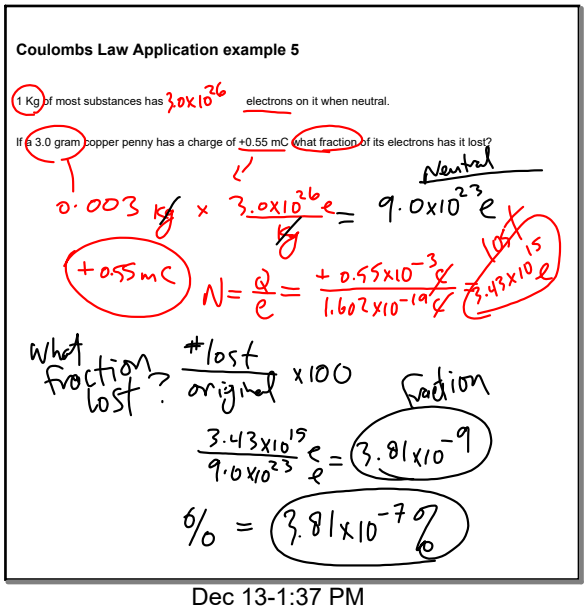
Coulombs Law Application example 5
1 Kg of most substances has 3.0x10^26 electrons on it when neutral.
If a 3.0 gram copper penny has a charge of +0.55 mC what fraction of its electrons has it lost?
0.003 kg x 3.0x10^26 e/kg = 9.0x10^23 e
Neutral
+0.55 mC
N = Q/e = +0.55x10^-3 C / 1.602x10^-19 C/e = 3.43x10^15 e
What fraction lost?
#lost / original x100
Fraction
3.43x10^15 e / 9.0x10^23 e = 3.81x10^-9
% = 3.81x10^-7 %

Dec 13-1:37 PM