

Goal: Solve the equation

$$4[\text{Pb}^{2+}]^3 - (K_w^2/K_{sp})[\text{Pb}^{2+}]^2 + 2K_w[\text{Pb}^{2+}] - K_{sp} = 0$$

$$K_{sp} = 5.00\text{E-}16$$

$$K_w = 1.00\text{E-}14$$

[Pb²⁺]	Zero?
0.E+00	-5.000E-16
1.E+00	4.000E+00
1.E-01	4.000E-03
1.E-02	4.000E-06
1.E-03	4.000E-09
1.E-04	4.000E-12
1.E-05	3.500E-15
1.E-06	-4.960E-16
1.E-07	-5.000E-16
2.E-06	-4.680E-16
3.E-06	-3.919E-16
4.E-06	-2.439E-16
5.E-06	1.000E-19
6.E-06	3.641E-16
4.9E-06	-2.931E-17
4.99E-06	-2.894E-18
4.999E-06	-2.000E-19
4.9999E-06	6.999E-20

$$[\text{Pb}^{2+}]_{eq} = 5.00\text{E-}06 \text{ M} \quad (3 \text{ sig figs})$$