	Marks
• Calculate the molar solubility of lead bromide given that its solubility product constant, K_{sp}, is 2.1×10^{-6}.	**2**

The dissolution equilibrium and solubility product are:

$$\mathbf{PbBr_2(s) \rightleftharpoons Pb^{2+}(aq) + 2Br^-(aq) \quad K_{sp} = [Pb^{2+}(aq)][Br^-(aq)]^2}$$

From the chemical equation, if *s* mol of dissolves in 1.0 L, $[Pb^{2+}(aq)] = s$ M and $[Br^-(aq)] = 2s$ M. Hence:

$$\mathbf{K_{sp} = (s)(2s)^2 = 4s^3 = 2.1 \times 10^{-6} \text{ or } s = 8.1 \times 10^{-3} \text{ M}}$$

Answer: **8.1×10^{-3} M**