The enthalpy of reaction forming PbO according to the following reaction is 438KJ.

$$2Pb(s) + O_2(g) \rightarrow 2PbO(s)$$

What amount of heat is released to form 22.3 g PbO (s)?

(Atomic mass: Pb=207, O=16) [Give answer in nearest interger]

Solution: 22 KJ

Explanation:

Molecular weight of PbO = 207+16=223 g/mol

22.3 g PbO = 0.1 mol PbO

To produced 2 mol PbO, heat released =438 KJ, hence, to produce 0.1 mol PbO, heat released 438\*0.1/2 = 21.9 KJ

Hence answer =22