Hess's Law #1

#	Reaction	ΔH^o
1	$C + 2H_2 \rightarrow CH_4$	-74.80 kJ
2	$C + O_2 \rightarrow CO_2$	-393.50 kJ
3	$H_2 + ½\ O_2 \rightarrow H_2O$	-285.83 kJ

Hess's Law #2

Rxn #1) **½ N_2 (*g*) + ½ O_2 (*g*) → NO (*g*)**
ΔH = 90.3 kJ

Rxn #2) **NO (*g*) + ½ Cl_2 (*g*) → NOCl (*g*)**
ΔH = –38.6 kJ

Hess's Law #3

Rxn #1) **$3Fe_2O_3 + CO\ (g) \rightarrow 2Fe_3O_4 + CO_2\ (g)$**
$\Delta H°$= -47 kJ

Rxn #2) **$Fe_2O_3 + 3CO\ (g) \rightarrow 2Fe\ (s) + 3CO_2\ (g)$**
$\Delta H°$= -25 kJ

Rxn #3) **$Fe_3O_4 + CO\ (g) \rightarrow 3FeO\ (s) + CO_2\ (g)$**
$\Delta H°$= 19 kJ

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