

Madison Parker; M15198486

1.) $\Delta E = q + w$

$$\Delta E = 225 + (-150) = 75$$

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2.) $q = mc\Delta T$

$q = ?$

$$q = 375(-120)(1.76)$$

$m = 375g$

$$q = -79200 J$$

$\Delta T = -120$

$c = 1.76 J/g \cdot K$

3.) $-1350 kJ \left(\frac{4 \text{ mol NO}}{-874 kJ} \right) \left(\frac{30.01 g}{1 \text{ mol}} \right) = 185.42 g$