P #E

Ch 12 Worksheet

c) $\Delta KE = \frac{3}{2} \cdot k_B \cdot \Delta T$ OR $\Delta U = \frac{3}{2} \cdot n \cdot R \cdot \Delta T$
$= \frac{3}{2} \cdot \Delta(P \cdot V)$

$\Delta U = \frac{3}{2} \cdot (103{,}913\ Pa) \cdot (.003 - .00225\ m^3)$

$\boxed{\Delta U = +117\ J}$

d) $\Delta U = 117\ J$
$W = -78\ J$

$\Delta U = W + Q$
$117\ J = (-78\ J) + Q$

$\boxed{Q = +195\ J}$