

Class 28 +1 B.9, B.12, M.9

(a) $F - C = 160$
 \uparrow
 -70

$$-160 - 5 \cdot 70 = 9C$$

$$\frac{-160 - 5 \cdot 70}{9} = C = -56.6$$

$$K = 273.15 + (-56.6) = 216.3 \text{ K}$$

(12) $N_2: 2.50 \cdot N \cdot k_B = 10.4 \frac{\text{J}}{\text{K}}$
 $\uparrow \quad \uparrow$
 $\frac{1}{2} \cdot 6 \cdot 10^{23} \quad 1.38 \cdot 10^{-23}$

$$\Delta T = 40 \rightarrow \underline{414 \text{ J}}$$

(9) Molar spec. heat same

$$\frac{445}{2.02} = 220 \frac{\text{J}}{\text{kg K}} \leftarrow \text{Google gives } 210$$