

1b. 1.90 atm CO₂
 quan. unit label

atm → Pressure
 (kPa, mmHg, inHg, torr)

1d. 390.2 mL CH₃OH
 quan. unit label

mL → Volume
 1L = 1000mL "milli"

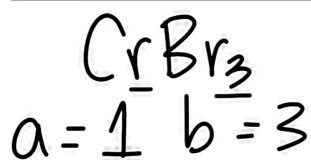
Mass (g) Volume (L) Pressure (atm) Temp (°C/K) Amount (mol)

2b. 58.7 in → cm
 [1 in = 2.54 cm]

$$\frac{58.7 \cancel{\text{in}}}{1} \times \frac{2.54 \text{ cm}}{1 \cancel{\text{in}}} = 149.10 \text{ cm}$$

2h. 485.3 g → kg
 [1 kg = 1000 g]

$$\frac{485.3 \cancel{\text{g}}}{1} \times \frac{1 \text{ kg}}{1000 \cancel{\text{g}}} = 0.485 \text{ kg} = 0.49 \text{ kg}$$



$$\text{Cr}: 1 \times 52.00 \text{ g}$$

$$\text{Br}: 3 \times 79.90 \text{ g}$$

$$\text{CrBr}_3 = 291.7 \text{ g/mol}$$

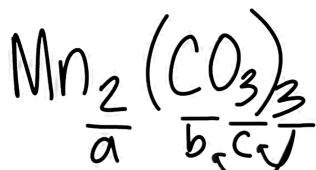
$$[1 \text{ mol CrBr}_3 = 291.7 \text{ g CrBr}_3]$$

$$190.6 \text{ g CrBr}_3 \rightarrow \text{mol CrBr}_3$$

$$(\text{MM CrBr}_3 = 291.7 \text{ g/mol})$$

$$\frac{190.6 \text{ g CrBr}_3}{291.7 \text{ g CrBr}_3} \times 1 \text{ mol CrBr}_3$$

$$= 0.65 \text{ mol CrBr}_3$$



$$a = 2 \quad b = 3 \quad c = 9$$

$$\text{Mn}: 2 \times 54.94 \text{ g}$$

$$\text{C}: 3 \times 12.01 \text{ g}$$

$$\text{O}: 9 \times 16.00 \text{ g}$$

$$\text{Mn}_2(\text{CO}_3)_3 = 289.9 \text{ g/mol Mn}_2(\text{CO}_3)_3$$

$$0.783 \text{ mol Mn}_2(\text{CO}_3)_3 \rightarrow$$

$$\text{mass Mn}_2(\text{CO}_3)_3$$

$$[1 \text{ mol Mn}_2(\text{CO}_3)_3 = 289.9 \text{ g Mn}_2(\text{CO}_3)_3]$$

$$\frac{0.783 \text{ mol Mn}_2(\text{CO}_3)_3}{1 \text{ mol Mn}_2(\text{CO}_3)_3} \times 289.9 \text{ g Mn}_2(\text{CO}_3)_3$$

$$= 227.00 \text{ g Mn}_2(\text{CO}_3)_3$$