

$$b) (i) \frac{7.44 \times 10^{-2} \text{ mol H}_2}{1.25} = 5.95 \times 10^{-2} \text{ mol L}^{-1} \text{ H}_2$$

$$(ii) \begin{aligned} \therefore 1.00 \text{ mol H}_2\text{S} - 7.44 \times 10^{-2} \text{ mol reacted} &= .026 \text{ mol} \\ \frac{.026 \text{ mol H}_2\text{S}}{1.25 \text{ L}} &= 2.08 \times 10^{-2} \text{ mol L}^{-1} \text{ H}_2\text{S} \end{aligned}$$

$$c) \frac{(7.44 \times 10^{-2})^2 (3.72 \times 10^{-2})}{(.026)^2} = K_c = .305$$

$$d) PV = nRT$$

$$1.25 \text{ L} = .1 \text{ mol} \cdot .0821 \text{ L atm / mol K} \cdot 483 \text{ K}$$

$$1.38, .0821, 483 \text{ K atm}$$

$$1.25 \text{ L}$$

$$P = 4.38 \text{ atm}$$

$$\frac{.0372}{4.38} = 26\% = 1.14 \text{ atm partial pressure S}_2$$

$$e) \frac{(.026)^2}{(7.44 \times 10^{-2})^2 (3.72 \times 10^{-2})} = K_c = 3.28$$