1.

$K = \frac{[CS_2][H_2]^4}{[CH_4][H_2S]^2} = 8\times 10^{-2}$

c = n/V

$K = \frac{\frac{0.1}{V}\times\left(\frac{0.2}{V}\right)^4}{\frac{0.15}{V}\times\left(\frac{0.05}{V}\right)^2} = \frac{0.427}{V^2} = 8\times 10^{-2}$

$V = \sqrt{\frac{0.427}{8\times 10^{-2}}} = 2.31$ L

2.

If the volume is decreased, the reaction will be shifted in forward direction (according to Le Chatelier's principle, because the volume of reaction mixture is increased with the time).

3.

The concentration of CS_2 will be increased (according to Le Chatelier's principle, because the temperature of reaction mixture is increased with the time).