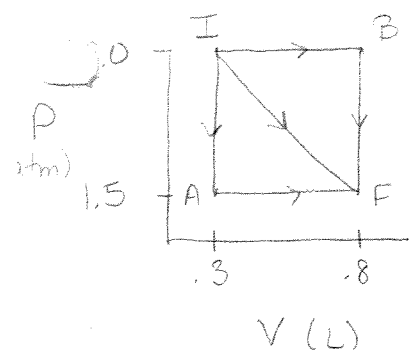




a) Calculate Work by finding area under the graph...

$$W_{IAF} = -(1.5 \text{ atm} \times .5 \text{ L})$$

$$= -(1.5 \times 10^5 \text{ Pa} \times .0005 \text{ m}^3)$$

$$W_{IAF} = -75 \text{ J}$$

$$W_{IBF} = -(2.0 \text{ atm} \times .5 \text{ L})$$

$$= -(2.0 \times 10^5 \text{ Pa} \times .0005 \text{ m}^3)$$

$$W_{IBF} = -100 \text{ J}$$

$$W_{IF} = -\frac{1}{2}(.5 \text{ atm} \times .5 \text{ L}) + -(1.5 \text{ atm} \times .5 \text{ L})$$

$$= -\frac{1}{2}(.5 \times 10^5 \text{ Pa} \times .0005 \text{ m}^3) + -(1.5 \times 10^5 \text{ Pa} \times .0005 \text{ m}^3)$$

$$W_{IF} = -87.5 \text{ J}$$