

Warmups

 1) + 2)
 Essays on CS exper. try to run code from STP suite

3)

 Work $G + T$ 2.7

Block on incline



$$(a) \quad W_{\text{on block by hand}} = \vec{F}_{\text{on block by hand}} \cdot \vec{\Delta S}$$

 where $\vec{\Delta S}$ is displacement up ramp

$$> 0 \quad \dots \text{positive}$$

$$(b) \quad W_{\text{on block by earth}} = \vec{F}_G \cdot \vec{\Delta S} < 0 \quad \dots \text{negative}$$

$$(c) \quad W_{\text{on hand by block}} = \vec{F}_{\text{on hand by block}} \cdot \vec{\Delta S} = -\vec{F}_{\text{on block by hand}} \cdot \vec{\Delta S} < 0 \quad \dots \text{negative}$$

4)

VdW eqn of state in form

$$P = f(T, P)$$

$$\rho = N/V$$

$$P = \frac{NkT}{V - Nb} - \left(\frac{N}{V}\right)^2 a$$

$$\frac{\rho kT}{1 - \rho b} - \rho^2 a$$