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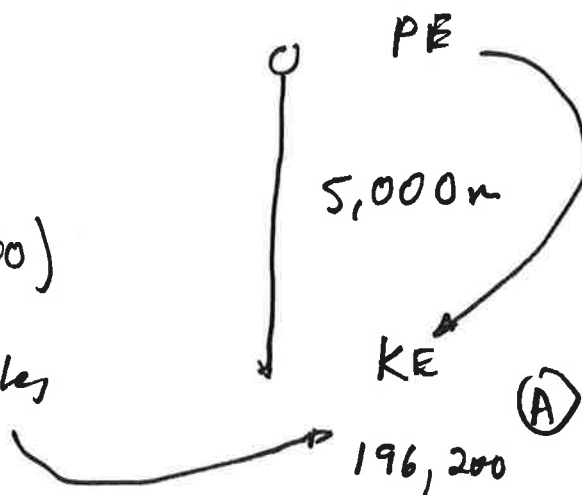
Fall for 5000 m

4.00 kg Re

(1) $PE = mgh$

$$PE = 4.00 (9.81) (5000)$$

$$PE = 196,200 \text{ Joules}$$



$$KE = \frac{1}{2} m v^2$$

$$196,200 = \frac{1}{2} 4 \text{ kg } v^2$$

(B) $313 \text{ m/s} = v \text{ at } 5,000 \text{ m}$

(C) $12,300 - 5000 = \text{Still time to Fall } 7300 \text{ m}$

$$PE = mgh$$

$$PE = 4 (9.81) 7300$$

$$PE = 286,452$$

(D) $5000 \text{ m} = \frac{1}{2} a t^2$

$$32.0 \text{ sec} = t$$

(E) $v = g \cdot t$
 $v = 9.81 \cdot 32 \text{ sec}$

$$v = 314 \text{ m/s}$$

(F)

$$b \approx e$$

$$313 \text{ m/s} \approx 314 \text{ m/s}$$