2. (10 pts) A parachutist jumps off a training tower that is 85 m high. She starts at rest and reaches the ground with a vertical speed of 5.0 m/s. How much work was done by th drag forces acting on her, given that her mass is 75 kg?

(a) $+2.1 \times 10^4$ J.

(b) indeterminate from the information given.

(c) -12.4×10^4 J.

**(d) -6.2×10^4 J.

gravity

$W_{drag} = \Delta(U + K)$

neg (loses ht)

pos (gains

$= \Delta U + \Delta K$

$= -mgh + \frac{1}{2} m v_f^2$

$\simeq -6.3 \times 10^4$ J $+ .1 \times 10^4$ J

$\simeq -6.2 \times 10^4$ J