b) Since the pulley is movable and supported by 2 segments of rope, the distance it moves is \( \frac{1}{2} \) the distance the rope moves.

\[ \therefore \text{To raise the canister 2 cm, pull the rope 4 cm} \]

C) What is the work done by your force?

\[ W = Fd \]
\[ F = 98 \text{ N} \]
\[ d = 4 \text{ cm} \]

\[ W = 98 \text{ N} (0.04 \text{ m}) = 3.9 \text{ J} \]

\[ \text{d) Work done on the canister:} \]
\[ F = 2T = 2(98 \text{ N}) = 196 \text{ N} \]
\[ d = 2 \text{ cm} \]
\[ W = 196 \text{ N} (0.02 \text{ m}) = 3.9 \text{ J} \]

\[ \text{(27) } W = \overline{F} \cdot \overline{d}, \text{ or for a graph of } F \text{ vs position, } W \text{ is the area under the curve} \]
\[ W = 25 \text{ J} \]