(a) The maximum displacement or amplitude is 10 cm. Since the block returns to its starting point in 5s, its period is 5s.

\[ \text{Frequency} = \frac{1}{5} = 0.2 \text{ Hz or c/s} \]

(b) \[ y = 10 \cos(2\pi \times 0.2t) \]
\[ = 10 \cos(0.4\pi t) \text{ cm} \]

(c) \[ y(2.5s) = 10 \cos(0.4\pi \times 2.5) \]
\[ = 10 \cos(\pi) \]
\[ = -10 \]