

# Cantor, Oscillator

Names:

Cantor has gone bungee jumping. After his jump, he bounced up and down on the spring (they used a metal spring because reasons) for a while. The following graph (Fig. 1) gives his position as a function of time:

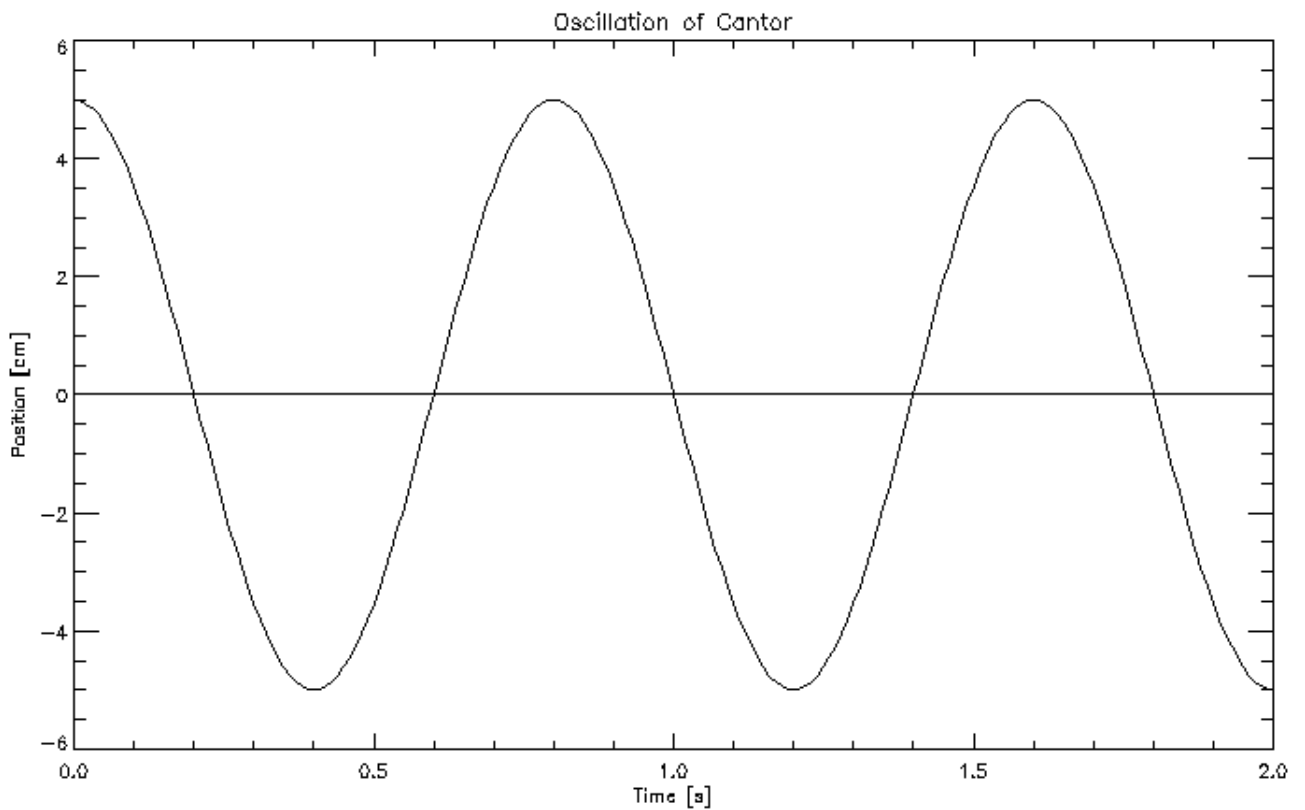


Figure 1: Oscillator, as a function of time.

1. What is the amplitude of the wave?

2. What is the wavelength?
  
3. Indicate (on the graph) the times when the Cantor's velocity is positive and when it is negative in two colors. Tell me here which color is which.
  
4. Indicate the times when Cantor's acceleration is positive and when it's negative. Tell me the colors you used here.
  
5. **Stretch:** When is Cantor's total energy positive and when is it negative, using the usual definition of elastic potential?