A demonstrator is holding one end of an elastic string taut. The right end is attached to a wall far away. The string has two parts: a light string connected to a heavier string as shown. (Ignore gravity.) How do the **tensions** in the two parts of the string compare?

A. The tensions in the two parts of the string are the same.
B. The tension in the light part of the string is greater.
C. The tension in the heavy part of the string is greater.
D. There is not enough information given to decide

A demonstrator is holding one end of an elastic string taut. The right end is attached to a wall far away. The string has two parts: a light string connected to a heavier string as shown. (Ignore gravity.) How do the **speeds of wave propagation** in the two parts of the string compare?

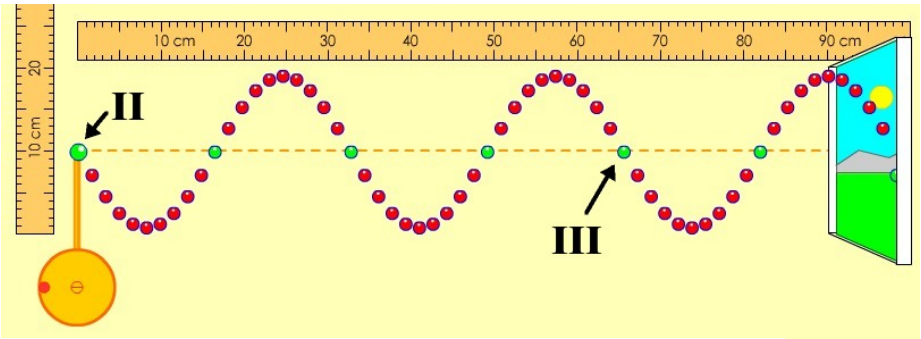
A. The wave speed is the same in both parts of the string.
B. The wave speed is greater in the light part of the string.
C. The wave speed is greater in the heavy part of the string.
D. There is not enough information given to decide

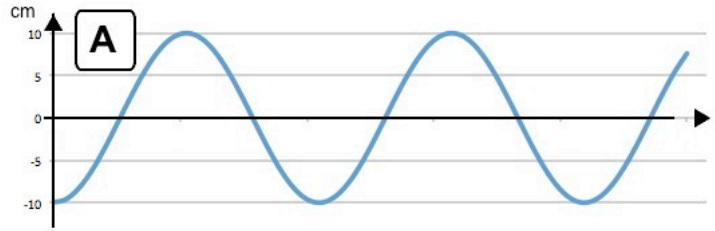
A demonstrator is holding one end of an elastic string that has two parts: a light string connected to a heavier string. She now moves her hand up and down once quickly, sending a single pulse down the string as shown. After the last bit of the pulse has reached the joining point, the heavy side of the string will display

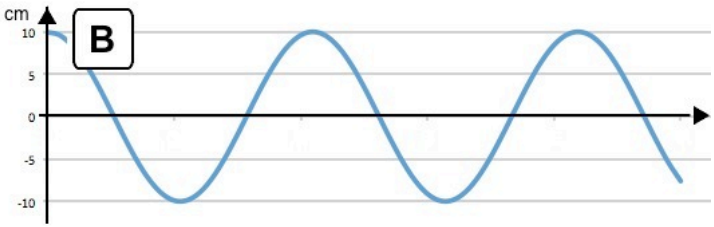
A. No pulse at all.
B. A pulse of greater width.
C. A pulse of smaller width.
D. A pulse of the same width.
E. There is not enough information to decide.

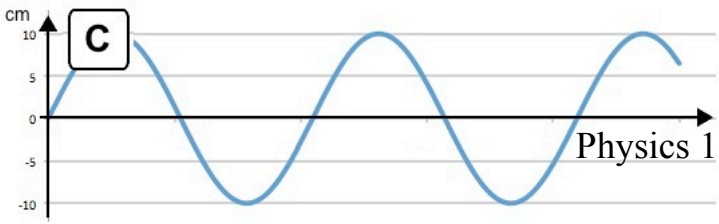
An elastic string (modeled as a series of beads) driven by a wheel driving one of the beads up and down sinusoidally. . The driving wheel has generated a traveling wave of amplitude 10 cm moving to the right. (The string continues on for a long way to the right as indicated by its going "out the window.") The figure shows $t = 0$, when the green bead marked "II" is passing through its equilibrium point.

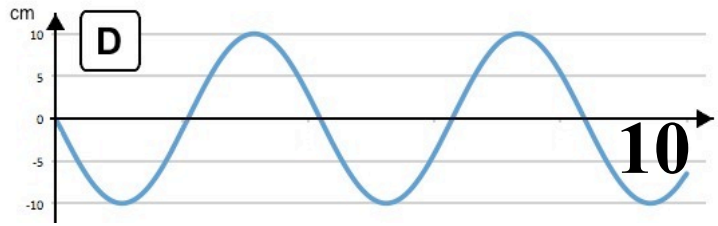
Which of the graphs could serve as a graph of **the vertical displacement of bead III** as a function of **time**?











An elastic string (modeled as a series of beads) driven by a wheel driving one of the beads up and down sinusoidally. . The driving wheel has generated a traveling wave of amplitude 10 cm moving to the right. (The string continues on for a long way to the right as indicated by its going "out the window.") The figure shows $t = 0$, when the green bead marked "II" is passing through its equilibrium point.

Which of the graphs could serve as a graph of **the vertical velocity of bead III** as a function of **time**?