Physics 133 Sample Quiz Name_____

Recitation Instructor (circle one): Able Baker Charlie Easy Fox George

QUIZ #2

(1) A transverse, string wave is described by: **$y = (20\ mm)\ \sin[(2.0\ rad/m)\ x + (16\ rad/s)\ t]$** where x and y are in meters and t is in seconds.

(a) What is the wave speed and direction?

(b) What is the transverse velocity of the string at x = 0 m when t = 10 ms?

(c) If this wave were superposed with an otherwise identical wave going the opposite direction to make a standing wave, what would be the spacing between nodes?

(d) Write the equation of a wave that, superposed with this one, would produce a wave with an amplitude of 5.0 mm.

(2) A string wave propagates <u>in the +x direction</u>. The graph on the right shows the displacement of a particle on the string as a function of time at position x = 0. Which graph below best gives the displacement as a function of position at t = 0?