Name:_____

Physics 20 Waves Quiz

1. Define a wave:

2. Draw a transverse wave and label the following:
   a. Crest
   b. Trough
   c. Amplitude
   d. Wavelength

3. Draw a longitudinal wave and label the following:
   a. Wavelength
   b. Compression
   c. Rarefaction

4. A wave has an amplitude of 2 cm and a frequency of 12 Hz, and the distance from a crest to the nearest trough is measured to be 5 cm. Determine the period of such a wave.

5. A tennis coach paces back and forth along the sideline 10 times in 2 minutes. The frequency of her pacing is _____.

6. A child in a swing makes one complete back and forth motion in 4.0 seconds. This statement provides information about the child's….
   a) speed b) frequency c) period

7. As the frequency of a wave increases, the period of the wave _____.
8. A teacher attaches a slinky to the wall and begins introducing pulses with different amplitude. Which of the two pulses (A or B) below will reach the wall first? Explain your answer.

9. A vibrating source with a frequency of 20.0 Hz produces water waves that have a wavelength of 3.0 cm. Calculate the speed of the waves.

10. A wave travels at 10.0 m/s. If the wavelength is .10m, what are the frequency and period of the wave?

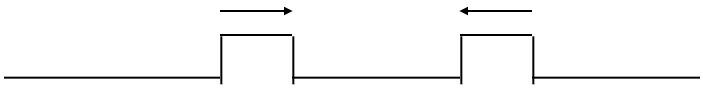
11. It takes a water wave 5.2 seconds to travel between two docks that are 19 m apart. An observer notices that 20. crests pass the first dock in 17 seconds. Find the wavelength of the water waves.

12. A pulse is sent on a spring towards a fixed end. The pulse will be reflected: (circle the best answer)
    a. right side up
    b. upside down
    c. faster
    d. not at all

13. A pulse is sent along a thick piece of rope attached to a thin piece of rope. When the pulse goes into the thin rope the transmitted pulse: (circle the best answer)
    a. is upside down
    b. is right side up
    c. has a different frequency
    d. none of the above

Using the Principle of Superposition, draw the resultant wave displacement **below** each diagram.

14.



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