Chapter 11 Review Name _____

1. Give two examples of mechanical waves, and identify the medium through which they travel.

2. Name the one type of wave that does not require a medium.

3. Describe the motion of the particles in the medium for each type of wave. How does this motion compare to the direction the wave travels?

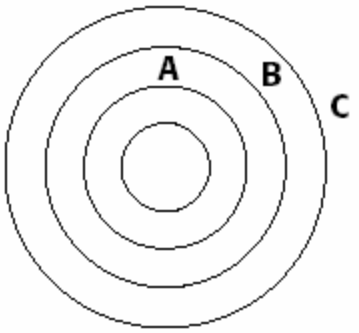
a. a transverse wave

b. a longitudinal wave

4. Explain what happens to the motion of a particle as a wave passes through a medium.

5. Use the figure below to answer the following questions. The figure shows a pattern of wave fronts that are formed when a pebble is dropped into a pool of water.

a. Compare the height of the wave fronts in circles A, B, and C.



b. Indicate the wave front in which the energy of the wave is most spread out.

c. Compare the amount of total energy in each of the wave fronts.

6. State the wave property or characteristic described in each of the following:

_____ a. measures the amount of particle vibration

_____ b. is the lowest point of a transverse wave

_____ c. measures how long it takes for a complete wave to pass a given point

_____ d. measures the rate of particle vibration

_____ e. is the highest point of a transverse wave

_____ f. measures the distance between two equivalent parts of a wave

7. Complete the following table. Indicate the changes that occur in the properties of a sound wave (frequency, pitch, wavelength, and wave speed) as a person experiences the Doppler effect.

	Increases	Decreases	Stays the same
As a source of sound moves toward a person			
As a source of sound moves away from a person			

Math practice

8. A wave along a guitar string has a frequency of 440 Hz and a wavelength of 1.5m. What is the speed of the wave?

Given and unknown	Equation	Calculations

9. The speed of sound in air is about 340 m/s. What is the wavelength of sound waves produced by a guitar string vibrating at 440 Hz?

Given and unknown	Equation	Calculations

10. KCAL Radio broadcasts at 96.7 MHz That is 96,700,000 Hz. The speed of light is 300,000,000 m/s. What is the wavelength of the radio waves?

Given and unknown	Equation	Calculations