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| **Physics 20 - Lesson 29****Waves in One-Dimension – Answer Key** / 97 |
| 1)/4 |  | a)  |
| b)  |
| c)  |
| d)  |
| 2)/8 |  |  |
| 3)/1 | A wave is a form of energy that moves through a medium by vibratory motion of the particles of the medium. |
| 4)/2 |   Crest  Trough Equilibrium |
| 5)/2 |  2.5cm |
| 6)/1 | Wave energy is converted into heat energy. |
| 7)/2 |   Compression Rarefaction |
| 8)/4 |   |
| 9)/1/1 | a) Transverse Pulse Crestb) Longitudinal Pulse  Compression |
| 10)/7 | **\_\_f\_\_** Period a. the motion of a pendulum**\_\_c\_\_** Frequency b. an S shape on its side**\_\_g\_\_** Amplitude c. number of vibrations per second**\_\_e\_\_** Displacement d. the completion of one cycle**\_\_b\_\_** Sine Curve e. the location of an object**\_\_d\_\_** Vibration f. time to complete one vibration **\_\_a\_\_** Simple Harmonic Motion g. position of maximum displacement |
| 11)/6 | 1. Equilibrium**: 26cm**
2. Amplitude: **6.0cm**
3. Displacement:

 20cm: **+6cm**24cm: **+2.0cm**26cm: **0.0cm**30cm: –**4.0cm** |
| 12)/4 |  |  |
| 13)/4 |  7.5cm 3 8 |  |
| 14)/2 |  |  |
| 15)/2 |  |  |
| /2 | a)  |  |
| /6 | b) i) ii) iii) |    |
| 16)/3 | **Speed** and **wavelength** are determined by properties of the medium, while **frequency** is determined by the source of the wave |
| 17)/4 | a) b) No, the speed remains constant, but the wavelength will become ½c) Wavelength becomes 10.0cm |
| 18)/4 |   |
| 19)/2 | Frequency decreases by a factor of 16 |
| 20)/1 | Decrease.Decreased frequency Increased wavelength |
| 21)/4 |  |  |
| 22)/4 |  |  |
| 23)/4 | Deep | Shallow |
| 24)/6 | A) Incident Transmitted ReflectedB) Incident Transmitted Reflected |
| 25)/6 |  |