Wave Speed Questions

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1. What is the speed of a wave with a frequency of 75Hz and a wavelength of 3 metres?
The formula we need to use is wave speed = frequency x wavelength.
So wave speed = 75 x 3
75 x 3 = 225
The wave speed is **225m/s**.

2. What is the speed of a wave with a frequency of 20Hz and a wavelength of 1.3 metres?
The formula we need to use is wave speed = frequency x wavelength
So wave speed = 20 x 1.3
20 x 1.3 = 26
The wave speed is **26m/s**.

3. What is the speed of a wave with a frequency of 370Hz and a wavelength of 0.2 metres?
The formula we need to use is wave speed = frequency x wavelength
So wave speed = 370 x 0.2
370 x 0.2 = 74
The wave speed is **74m/s**.

4. What is the frequency of a wave with a speed of 6m/s and a length of 2 metres?
The formula we need to use is wave speed = frequency x wavelength.
We need to rearrange the formula to find the frequency:
frequency = wave speed ÷ wavelength
So frequency = 6 ÷ 2
6 ÷ 2 = 3
The wave frequency is **3Hz**.

5. What is the frequency of a wave with a speed of 16m/s and a length of 4 metres?
The formula we need to use is wave speed = frequency x wavelength
We need to rearrange the formula to find the frequency:
frequency = wave speed ÷ wavelength
So frequency = 16 ÷ 4
16 ÷ 4 = 4
The wave frequency is **4Hz**.

You may need a calculator for these questions.

If needed, round your answers up to 2 decimal places. (eg. 33.3333... becomes 33.33)

6. What is the frequency of a wave with a speed of 7m/s and a length of 3.6 metres?
The formula we need to use is wave speed = frequency x wavelength.
We need to rearrange this formula to find the frequency:
frequency = wave speed ÷ wavelength
So frequency = 7 ÷ 3.6
7 ÷ 3.6 = 1.9444...
The wave frequency is **1.94Hz**.

7. What is the length of a wave with a speed of 86m/s and a frequency of 9Hz?
The formula we need to use is wave speed = frequency x wavelength
We need to rearrange this formula to find the wavelength:
wavelength = wave speed ÷ frequency
So wavelength = 86 ÷ 9
86 ÷ 9 = 0.1
The wave length is **0.1m**.

8. What is the length of a wave with a speed of 6.8m/s and a frequency of 16.5Hz?
The formula we need to use is wave speed = frequency x wavelength
We need to rearrange this formula to find the wavelength:
wavelength = wave speed ÷ frequency
So wavelength = 6.8 ÷ 16.5
6.8 ÷ 16.5 = 0.412412...
The wave length is **0.41m**.

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