Assignment – Anatomy of a Wave

For each wave:

- Draw the nodal line (use a ruler) – *[horizontal line midway between the crest and trough]*
- Measure the wavelength in cm (use a ruler)
- State the number of wavelengths represented

- Measure the amplitude in cm (use a ruler)
- If these are electromagnetic waves in space, use the wave equation to determine the frequency of each (c = 3.00×10⁸ m/s = speed of electromagnetic waves in space): $v = f\lambda = c$

Wave 1:

a) Draw the nodal line
b) Measure the Wavelength: _____ cm
c) Count the Number of waves represented _____ (there may be partial waves – e.g. 2.5λ, or 5.25λ)
d) Measure the Amplitude: _____ cm
e) Calculate the Wave frequency: f = _____ Hz

Wave 2:

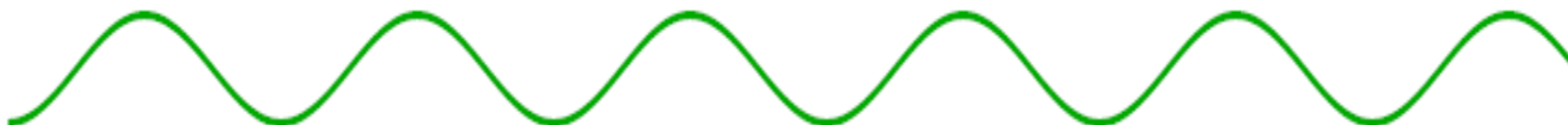a) Draw the nodal line
b) Measure the Wavelength: _____ cm
c) Count the Number of waves represented _____ (there may be partial waves – e.g. 2.5λ, or 5.25λ)
d) Measure the Amplitude: _____ cm
e) Calculate the Wave frequency: f = _____ Hz
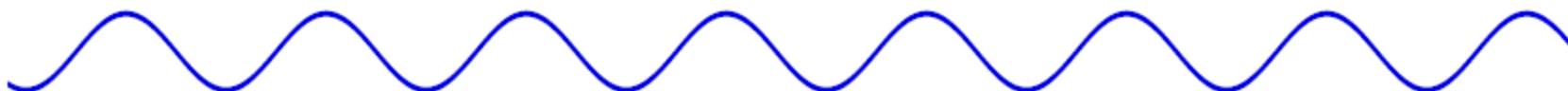
Wave 3:

    a) Draw the nodal line

    b) Measure the Wavelength: _____ cm

    c) Count the Number of waves represented _____ (there may be partial waves – e.g. 2.5λ, or 5.25λ)

    d) Measure the Amplitude: _____ cm

    e) Calculate the Wave frequency: f = _____ Hz

Wave 4:

    a) Draw the nodal line

    b) Measure the Wavelength: _____ cm

    c) Count the Number of waves represented _____ (there may be partial waves – e.g. 2.5λ, or 5.25λ)

    d) Measure the Amplitude: _____ cm

    e) Calculate the Wave frequency: f = _____ Hz

Wave 5:

    a) Draw the nodal line

    b) Measure the Wavelength: _____ cm

    c) Count the Number of waves represented _____ (there may be partial waves – e.g. 2.5λ, or 5.25λ)

    d) Measure the Amplitude: _____ cm

    e) Calculate the Wave frequency: f = _____ Hz