Coupled Oscillations

Interaction-2

Part-a:

For a simple harmonic oscillator, of amplitude A, spring constant k, and mass m, it is know that the period (T) is:



That means, it takes a whole period T to move from A to –A and back to A again.

Question: what is the time that it takes the mass to move between:

1. [-A,A]
2. [-A,0]
3. [3/4 A, A]

**Hint: think ‘symmetry’ 🡨 only when it applies ☺**

Part-b:

If a mass (m) is connected to two springs in series, one with stiffness k1 and other with stiffness k2, find the natural frequency of oscillation.

