

Frequency and Time Period Questions

($f = 1/T$)

These questions get progressively harder. Give your answers in Hertz (Hz) where appropriate.

1. A lighthouse lamp completes one full rotation every 10 seconds. What is the frequency of the rotation?
2. A child on a swing takes 2 seconds to complete one full swing backwards and forwards. What is the frequency of the swing?
3. A wind turbine blade takes 0.5 seconds to complete one full turn. Calculate the frequency.
4. A washing machine drum completes one rotation every 0.2 seconds during the spin cycle. What is the frequency?
5. A playground roundabout rotates with a frequency of 4 Hz. Calculate the time period.
6. A vibrating mobile phone motor has a frequency of 50 Hz. What is the time period of the vibration?
7. A hummingbird flaps its wings at a frequency of 80 Hz. Calculate the time taken for one wing flap cycle.
8. A loudspeaker cone vibrates with a frequency of 250 Hz. Calculate the time period of the vibration.
9. A drone propeller completes one full rotation every 0.008 s. Calculate:
 - a) The frequency of the propeller.
 - b) How many rotations it makes in 1 minute.
10. A machine in a factory vibrates at a frequency of 125 Hz. It operates continuously for 40 seconds.
 - a) Calculate the time period of the vibration.
 - b) Calculate the total number of vibrations made in 40 seconds.