

Wavelength, Period & Frequency

1. Calculate the wavelength of a wave if 5 complete waves occupy a length of 20 m. 4 m
2. Calculate the wavelength of a wave if 15 complete waves occupy a length of 90 m. 6 m
3. Calculate the wavelength of a wave if 5 complete waves occupy a length of 2 m. 0.4 m
4. Calculate the wavelength of a wave if 80 complete waves occupy a length of 20 cm. 0.0025 m
5. Calculate the wavelength of a wave if a third of a complete wave occupies a length of 4 m. 12 m
6. Calculate the period of a wave if 5 complete waves are produced in 60 seconds. 12 s
7. Calculate the period of a wave if 8 complete waves are produced in 72 seconds. 9 s
8. Calculate the period of a wave if 4 complete waves are produced in 2 seconds. 0.5 s
9. Calculate the period of a wave if 180 complete waves are produced in 1 minute. 0.33 s
10. Calculate the period of a wave if 6000 complete waves are produced in 10 minutes. 0.1 s
11. Calculate the frequency of a wave that has 120 oscillations in 10 seconds. 12 Hz
12. Calculate the frequency of a wave that has 50 oscillations in 20 seconds. 2.5 Hz
13. Calculate the frequency of a wave that has 80 oscillations in 120 seconds. 0.67 Hz
14. Calculate the frequency of a wave that has 180 oscillations in 3 minutes. 1 Hz
15. Calculate the frequency of a wave that has 18 000 oscillations in 5 hours. 1 Hz
16. Calculate the frequency of a wave that has period 0.2 second. 5 Hz
17. Calculate the frequency of a wave that has period 0.025 second. 40 Hz
18. Calculate the frequency of a wave that has period 4 seconds. 0.25 Hz
19. Calculate the frequency of a wave that has period 2 milliseconds. 500 Hz
20. Calculate the frequency of a wave that has period 0.5 ms. 2000 Hz
21. Calculate the period of a wave that has frequency 10 Hz. 0.1 s
22. Calculate the period of a wave that has frequency 500 Hz. 0.002 s
23. Calculate the period of a wave that has frequency 0.2 Hz. 5 s
24. Calculate the period of a wave that has frequency 10 kHz. $1 \times 10^{-4}\text{ s}$
25. Calculate the period of a wave that has frequency 25 MHz. $4 \times 10^{-8}\text{ s}$
26. How many complete waves are produced in 60 seconds by a wave of period 5 seconds? 12
27. How many complete waves are produced in 140 seconds by a wave of period 2 seconds? 70
28. How many complete waves are produced in 10 seconds by a wave of period 0.5 seconds? 20
29. How many complete waves are produced in 2 minutes by a wave of period 6 seconds? 20
30. How many complete waves are produced in 1 hour by a wave of period 0.02 seconds? 180000
31. How many complete waves of wavelength 2 m are found over a distance of 10 m? 5
32. How many complete waves of wavelength 5 m are found over a distance of 600 m? 120
33. How many complete waves of wavelength 50 cm are found over a distance of 20 m? 40
34. How many complete waves of wavelength 3 m are found over a distance of 9 km? 3000
35. How many complete waves of wavelength 4 mm are found over a distance of 6 m? 1500
36. How many complete waves are produced in 1 second by a wave of frequency 600 Hz? 600
37. How many complete waves are produced in 40 seconds by a wave of frequency 5 Hz? 200
38. How many complete waves are produced in 120 seconds by a wave of frequency 50 Hz? 6000
39. How many complete waves are produced in 5 minutes by a wave of frequency 6 Hz? 1800
40. How many complete waves are produced in 2 hours by a wave of frequency 200 Hz? 1440000

Equations to use:

frequency = number of oscillations / time taken

frequency = 1 / period; period = 1 / frequency