NOVA SCOTIA PHYSICS 12 · UNIT C · 25 QUESTIONS

Simple Harmonic Motion — Practice Test

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

1 **A pendulum has period 1 seconds. If its length is multiplied by 4, the new period, in seconds, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

2 **A pendulum has period 2 seconds. If its length is multiplied by 4, the new period, in seconds, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

3 **A pendulum has period 0.5 seconds. If its length is multiplied by 4, the new period, in seconds, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

4 **A mass on a spring has period 0.5 seconds. If the mass is multiplied by 4, the new period, in seconds, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

5 **A mass on a spring has period 1 seconds. If the mass is multiplied by 4, the new period, in seconds, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

6 **A mass on a spring has period 2.5 seconds. If the mass is multiplied by 4, the new period, in seconds, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

7 **An oscillator has period 0.5 seconds. Its frequency, in hertz, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

8 **An oscillator has period 0.25 seconds. Its frequency, in hertz, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

9 **An oscillator has period 2 seconds. Its frequency, in hertz, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

10 **An oscillator has energy 10 joules. If its amplitude doubles, the new energy, in joules, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

11 **An oscillator has energy 5 joules. If its amplitude doubles, the new energy, in joules, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

12 **An oscillator has energy 2 joules. If its amplitude doubles, the new energy, in joules, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

13 **An oscillator completes 20 oscillations in 10 seconds. Its period, in seconds, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

14 **An oscillator completes 40 oscillations in 10 seconds. Its period, in seconds, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

15 **An oscillator completes 10 oscillations in 20 seconds. Its period, in seconds, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

16 **An oscillator completes 20 oscillations in 10 seconds. Its frequency, in hertz, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

17 **An oscillator completes 30 oscillations in 10 seconds. Its frequency, in hertz, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

18 **An oscillator completes 10 oscillations in 5 seconds. Its frequency, in hertz, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

19 **Simple harmonic motion is caused by a restoring force proportional to**

A displacement from equilibrium

B speed

C mass

D time

Understand It with Pulse | Flag a mistake

20 **In simple harmonic motion acceleration is greatest at the**

A equilibrium position

B extremes of motion

C midpoint

D start only

Understand It with Pulse | Flag a mistake

21 **In simple harmonic motion speed is greatest at the**

A extremes

B start

C equilibrium position

D end only

Understand It with Pulse | Flag a mistake

22 **The period of a simple pendulum depends on its length and**

A mass

B amplitude for small angles

C colour

D gravitational field strength

Understand It with Pulse | Flag a mistake

23 **Damping reduces the amplitude of an oscillator over time because energy is**

- A lost to the surroundings
- B gained
- C stored only
- D doubled

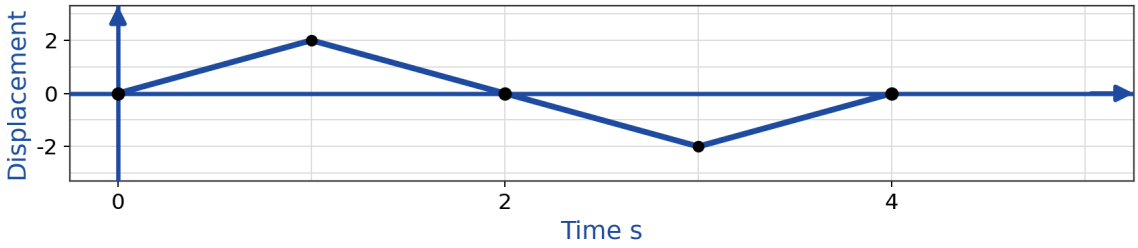
Understand It with Pulse | Flag a mistake

24 **Resonance occurs when a driving frequency matches the**

- A amplitude
- B natural frequency
- C mass
- D length

Understand It with Pulse | Flag a mistake

25 **The graph shows displacement against time for an oscillator. The period, in seconds, is**



A 2

B 8

C 4

D 1

Understand It with Pulse | Flag a mistake

ANSWER KEY

1.	2	**10.**	40	**19.**	A
2.	4	**11.**	20	**20.**	B
3.	1	**12.**	8	**21.**	C
4.	1	**13.**	0.5	**22.**	D
5.	2	**14.**	0.25	**23.**	A
6.	5	**15.**	2	**24.**	B
7.	2	**16.**	2	**25.**	C
8.	4	**17.**	3		
9.	0.5	**18.**	2		

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