ONTARIO PHYSICS, GRADE 11, UNIVERSITY PREPARATION (SPH3U) · UNIT A · 25 QUESTIONS

Kinematics — 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 **Displacement differs from distance because displacement includes**

- A only magnitude
- B time only
- C direction as well as magnitude
- D speed only

Understand It with Pulse | Flag a mistake

2 **Velocity differs from speed because velocity includes**

- A only magnitude
- B time only
- C distance only
- D direction as well as magnitude

Understand It with Pulse | Flag a mistake

3 **A car travels 120 metres in 10 seconds at constant speed. What is its speed in metres per second?**



ANSWER

Understand It with Pulse | Flag a mistake

4 **A car travels 200 metres in 20 seconds at constant speed. What is its speed in metres per second?**

ANSWER

Understand It with Pulse | Flag a mistake

5 **A cyclist rides 90 metres in 15 seconds at constant speed. What is the speed of the cyclist in metres per second?**



ANSWER _____

Understand It with Pulse | Flag a mistake

6 **A car travels 150 metres in 30 seconds at constant speed. What is its speed in metres per second?**

ANSWER _____

Understand It with Pulse | Flag a mistake

7 **A car travels 60 metres in 12 seconds at constant speed. What is its speed in metres per second?**

ANSWER _____

Understand It with Pulse | Flag a mistake

8 **An object moves at 20 metres per second for 5 seconds. How far does it travel in metres?**

ANSWER _____

Understand It with Pulse | Flag a mistake

9 **An object moves at 15 metres per second for 4 seconds. How far does it travel in metres?**

ANSWER _____

Understand It with Pulse | Flag a mistake

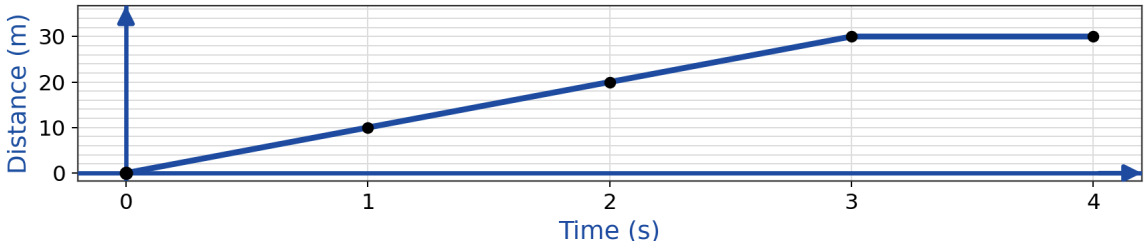
10 **A train moves at 30 metres per second for 6 seconds. How far does it travel in metres?**



ANSWER

Understand It with Pulse | Flag a mistake

11 **The graph shows distance against time for a moving object. What is its speed in metres per second during the first 3 seconds?**



ANSWER _____

Understand It with Pulse | Flag a mistake

12 **An object moves at 12 metres per second for 10 seconds. How far does it travel in metres?**

ANSWER _____

Understand It with Pulse | Flag a mistake

13 **An object accelerates from 0 metres per second to 20 metres per second in 5 seconds. What is its acceleration in metres per second squared?**

ANSWER _____

Understand It with Pulse | Flag a mistake

14 **An object accelerates from 10 metres per second to 30 metres per second in 4 seconds. What is its acceleration in metres per second squared?**

ANSWER

Understand It with Pulse | Flag a mistake

15 **A sprinter accelerates from 0 metres per second to 10 metres per second in 5 seconds. What is the acceleration of the sprinter in metres per second squared?**



ANSWER

Understand It with Pulse | Flag a mistake

16 **An object accelerates from 0 metres per second to 15 metres per second in 3 seconds. What is its acceleration in metres per second squared?**

ANSWER _____

Understand It with Pulse | Flag a mistake

17 **Acceleration is**

A rate of change of velocity

B change in speed only

C distance ÷ time

D speed in a straight line

Understand It with Pulse | Flag a mistake

18 **On a distance time graph, a horizontal line means the object is**

A moving at constant speed

B at rest

C accelerating

D moving backward

Understand It with Pulse | Flag a mistake

19 **On a distance time graph, the slope of the line gives**

A acceleration

B displacement only

C speed

D time

Understand It with Pulse | Flag a mistake

20 **On a velocity time graph, the area under the line gives**

A acceleration

B speed only

C force

D displacement

Understand It with Pulse | Flag a mistake

21 **On a velocity time graph, the slope of the line gives**

A acceleration

B displacement

C speed

D distance

Understand It with Pulse | Flag a mistake

22 **A race car accelerates at 4 metres per second squared from 10 metres per second to 30 metres per second. How long in seconds does this take?**



ANSWER

Understand It with Pulse | Flag a mistake

23 **An object accelerates at 5 metres per second squared from 5 metres per second to 25 metres per second. How long in seconds does this take?**

ANSWER

Understand It with Pulse | Flag a mistake

24 **An object accelerates at 2 metres per second squared from 0 metres per second to 20 metres per second. How long in seconds does this take?**

ANSWER

Understand It with Pulse | Flag a mistake

25 **A red apple in free fall near Earth accelerates at about**



A 1 metre per second squared

B 9.8 metres per second squared

C 0 metres per second squared

D 20 metres per second squared

Understand It with Pulse | Flag a mistake

ANSWER KEY

1.	C	**10.**	180	**19.**	C
2.	D	**11.**	10	**20.**	D
3.	12	**12.**	120	**21.**	A
4.	10	**13.**	4	**22.**	5
5.	6	**14.**	5	**23.**	4
6.	5	**15.**	2	**24.**	10
7.	5	**16.**	5	**25.**	B
8.	100	**17.**	A		
9.	60	**18.**	B		

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