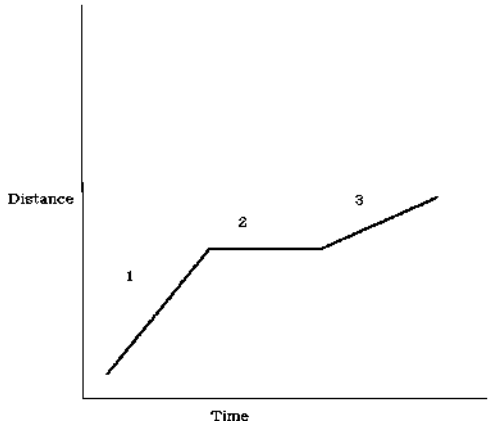
Physics Chapter 1-2 Test Review

1. Define both displacement and distance and than thoroughly explain the difference between displacement and distance?

2. Be able to answer questions concerning a graph. List what's taking place at each number on the graph.



3. A tennis ball is thrown vertically upward with an initial velocity of 47 m/s. How long will it take for the ball to reach the top? Vf = 0 a = (Vf-Vi)/time **g = 9.8 m/s^2 (on Earth)**

4. A boy walks a total distance of 210 m. If it takes him 36,900 s to make this trip, what is his speed?

$$S_{av} = \frac{\Delta d}{\Delta t}$$

S_{av} = average speed
d = distance
t = time

5. With an average acceleration of 37 m/s^2 and an initial velocity of 120 m/s, what would his final velocity be if it takes him 56000 seconds? a = (Vf-Vi)/time

6. With an acceleration of -.4 m/s^2, how long will it take a cyclist to bring a bicycle with an initial velocity of 13.5 m/s to a complete stop (vf=0)? a = (Vf-Vi)/time

7.

Sara will run a 3.1 mile race at an average pace of 9 miles an hour. How long will it take her to finish the race?

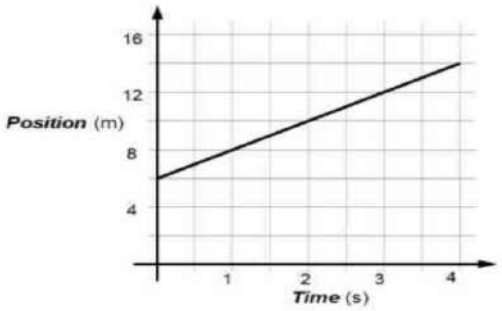
- ○ 0.25 hours
- ○ 1.7 hours
- ○ 2.9 hours
- ○ 0.34 hours

$S_{av} = \frac{\Delta d}{\Delta t}$

S_{av} = average speed
d = distance
t = time

What type of motion is represented on the graph?

8.



- ○ Standing still
- ○ Constant speed
- ○ Speeding up
- ○ Slowing down

9.

A toy car is sent down a 5 m long track in a time of 3.13 seconds. What is the average speed of the car, in m/s?

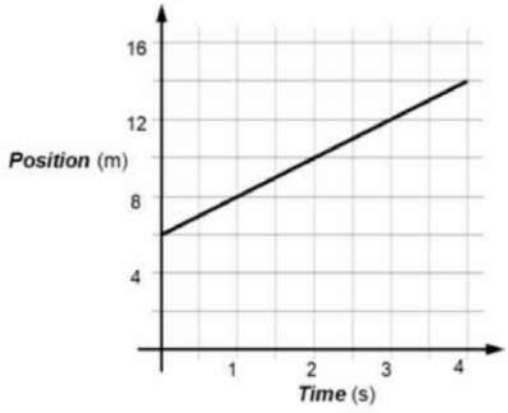
- ○ 15.65 m/s
- ○ 0.626 m/s
- ○ 1.6 m/s
- ○ 8.13 m/s

$S_{av} = \frac{\Delta d}{\Delta t}$

S_{av} = average speed
d = distance
t = time

10.

What is the average velocity represented on the graph?



- ○ 1.5 m/s
- ○ 4 m/s
- ○ 2 m/s
- ○ 3.5 m/s

11. a = (Vf-Vi)/time

A robot changes velocity from 2 meters per second to 7 meters per second in a 3 second period. What is the acceleration?

- ○ 5.0 m/s
- ○ 5.0 m/s^2
- ○ 1.6 m/s
- ○ 1.6 m/s^2

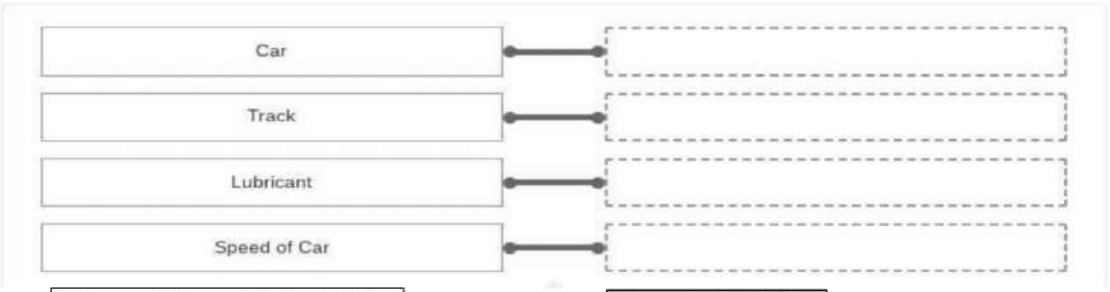
12. What term describes a vehicle traveling north on a highway at 65 mph?

- ○ Angular speed
- ○ Linear speed
- ○ Velocity
- ○ Acceleration

13.

John wants to conduct a test to see if a new lubricant on the axle of his toy car will increase the speed of his car on a 10 foot track. Identify the correct variables for his experiment. Match the term to its correct definition.

Track # 2	Car #7		
	Trial #1	Trial #2	Trial #3
Before Lubrication	5.1 sec	5.3 sec	5.2 sec
After Lubrication	4.7 sec	4.9 sec	4.8 sec



Measured (Dependent) Variable

Change (Independent) Variable

Controlled Variable

Controlled Variable

14. What type of curve is the path of a projectile with no air resistance?

15. A certain teacher throws a white board marker in the direction of her least favorite student. It stays in the air for 1.2 seconds. What is the height of the marker? g=-9.8m/s^2

$Y = -.5\ (g)(t^2)$