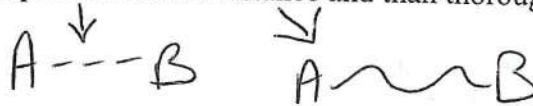
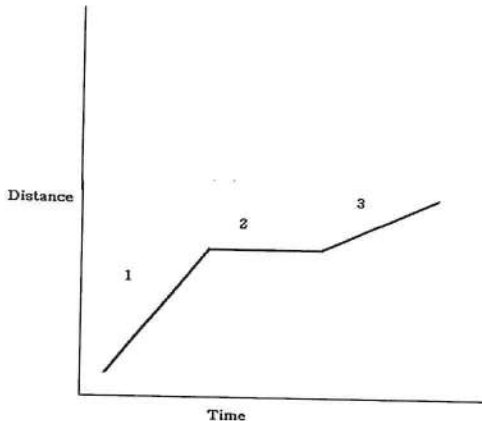


# Physics Chapter 1-2 Test Review

1. Define both displacement and distance and then 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.



- 1.) constant speed (fast)  
2.) STAND STILL  
3.) constant speed (slow)

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?  $V_f = 0$   $a = (V_f - V_i)/\text{time}$   $g = 9.8 \text{ m/s}^2$  (on Earth)

$$-9.8 = \frac{0 - 47}{\text{time}}$$

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

$$S = \frac{210}{36,900}$$

5. With an average acceleration of 37 m/s<sup>2</sup> and an initial velocity of 120 m/s, what would his final velocity be if it takes him 56000 seconds?  $a = (V_f - V_i)/\text{time}$

$$37 = \frac{V_f - 120}{56,000}$$

6. With an acceleration of -.4 m/s<sup>2</sup>, how long will it take a cyclist to bring a bicycle with an initial velocity of 13.5 m/s to a complete stop ( $v_f = 0$ )?  $a = (V_f - V_i)/\text{time}$

$$-.4 = \frac{0 - 13.5}{t}$$

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

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

$S_{av}$  = average speed

$d$  = distance

$t$  = time

☐ 1.7 hours

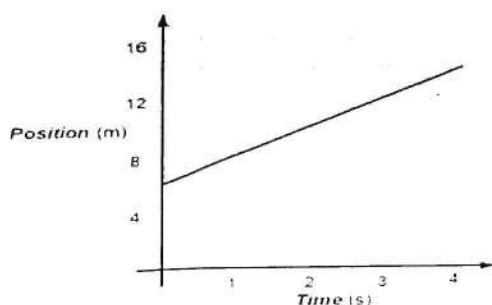
☐ 2.9 hours

☐ 0.34 hours

$$9 = \frac{3.1}{t}$$

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

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

$S_{av}$  = average speed

$d$  = distance

$t$  = time

☐ 0.626 m/s

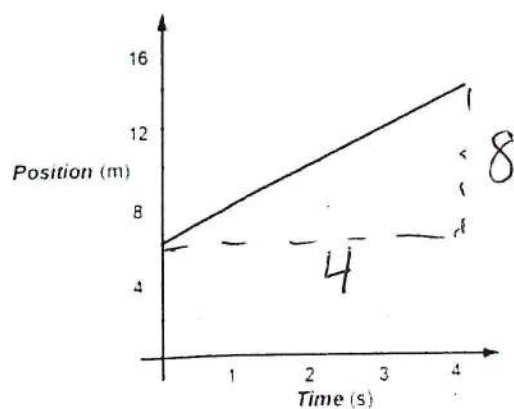
☐ 1.6 m/s

☐ 6.13 m/s

$$\frac{5}{3.13} = \boxed{\phantom{00}}$$

10.

What is the average velocity represented on the graph?



☐ 15 m/s

☐ 4 m/s

☐ 2 m/s

☐ 3.5 m/s

11.  $a = (V_f - V_i) / \text{time}$

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<sup>2</sup>
- ☐ 1.6 m/s
- ☐ 1.6 m/s<sup>2</sup>

$$a = \frac{(7-2)}{3} = \boxed{\phantom{000}}$$

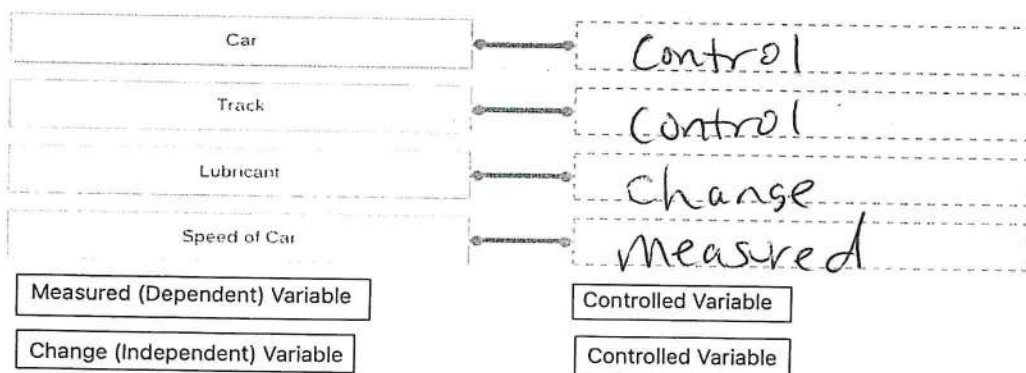
12. What term describes a vehicle traveling north on a highway at 65 mph?

- ☐ 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



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

Parabola

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?  $g = -9.8 \text{ m/s}^2$

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

$$y = -.5(-9.8)1.2^2 = \boxed{\phantom{000}}$$

