NOTES: SPEED-TIME GRAPHS

- Show an object’s speed or _______________ over time
- Speed or velocity on ____ -axis
- Time on ____ -axis

Label the Graphs

A. _______________
   This object is getting faster & faster.

B. _______________
   This object is getting slower & slower, or _______________

C. _______________
   This object is maintaining a _______________ speed.

Flat Lines

A flat line on a position-time graph means _______________.

A flat line on a speed-time graph means _______________.

Calculating Distance

- It is also possible to calculate how _________ an object has traveled using the following equation:

$$\text{DISTANCE} = \text{SPEED} \times \text{TIME}$$

How far did this object travel during the first 20 seconds?

How far did this object travel during the first 8 seconds?
Calculating Acceleration
It is also possible to calculate an object’s acceleration using the following equation:

\[
\text{Acceleration} = \frac{\text{Change in Speed (m/s)}}{\text{Time (s)}} \quad (m/s^2)
\]

What is the object’s acceleration? _____________

Comparing a Position-Time Graph to a Speed-Time Graph

1. How far does the boy travel from the 10-second interval to the 20-second interval? _____________
2. What is the boy’s acceleration from the 0-second interval to the 10-second interval? _____________

Interpreting a Speed-Time Graph #2

1. How far did the bus travel from point A to point B?
2. What was the bus’s speed at point C?
3. For how many seconds did the bus decelerate?
4. What was the bus’ acceleration from point D to point E?

Drawing a Speed-Time Graph
Maria walks at a constant speed of 6 m/s for 5 seconds. Then, she runs at a constant speed of 10 m/s for 5 seconds. Create a speed-time graph using her data.