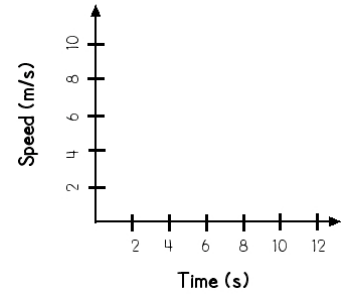


NOTES: SPEED-TIME GRAPHS

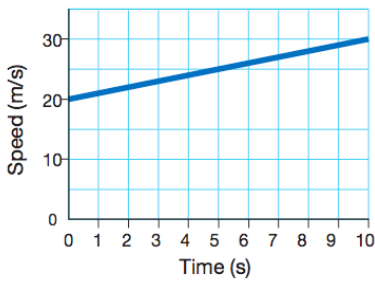
- Show an object's speed or _____ over time
- **Speed** or **velocity** on _____-axis
- **Time** on _____-axis



Label the Graphs

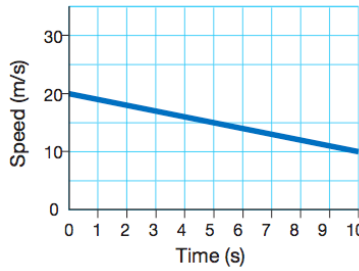
A. _____

This object is getting faster & faster.



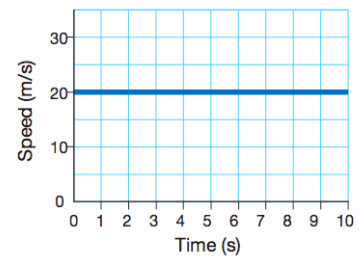
B. _____

This object is getting slower & slower,
or _____.



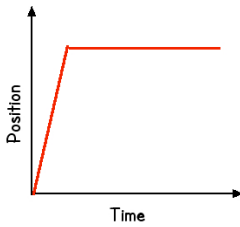
C. _____

This object is maintaining a
_____ speed.

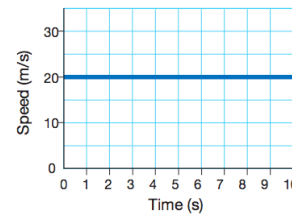


Flat Lines

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:

$$\text{Distance} = \text{Speed} \times \text{Time}$$

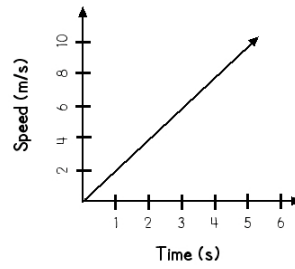
| | |
|--|---|
| <p>How far did this object travel during the first 20 seconds? _____</p> | <p>How far did this object travel during the first 8 seconds? _____</p> |
|--|---|

Calculating Acceleration

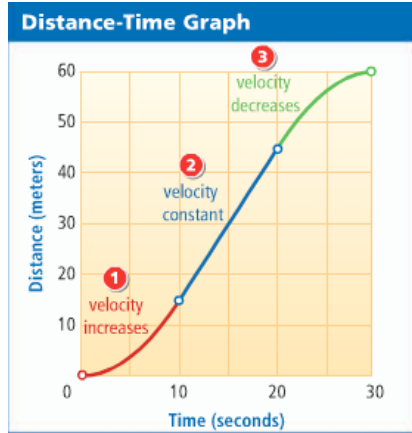
It is also possible to calculate an object's acceleration using the following equation:

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

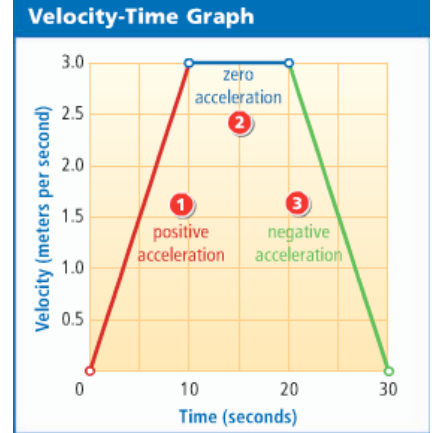
What is the object's acceleration? _____



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

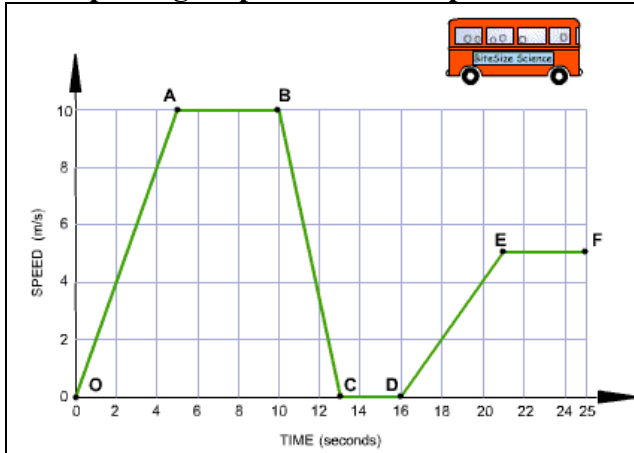


- 1 As the student starts to push the scooter, his velocity increases. His acceleration is positive, so he moves forward a greater distance with each second that passes.
- 2 He coasts at a constant velocity. Because his velocity does not change, he has no acceleration, and he continues to move forward the same distance each second.
- 3 As he slows down, his velocity decreases. His acceleration is negative, and he moves forward a smaller distance with each passing second until he finally stops.



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.**

