

Graphs

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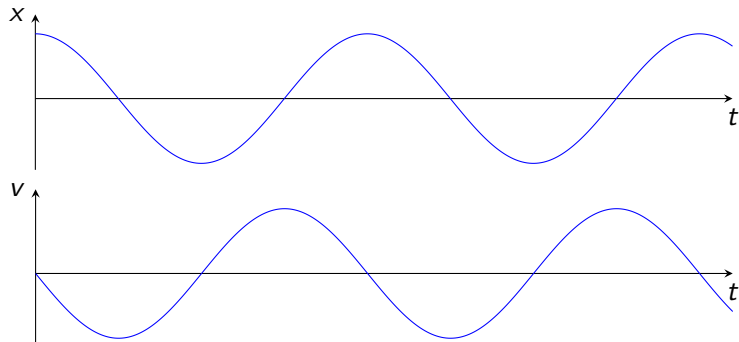
In kinematics, time is usually on the horizontal axis.

- ▶ Position as a function of time
- ▶ Velocity as a function of time
- ▶ Acceleration as a function of time

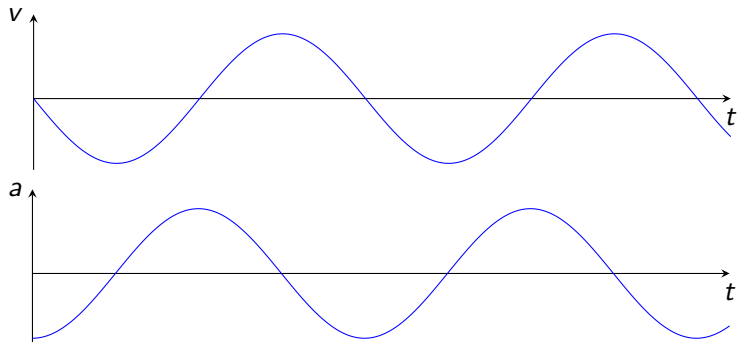
Slogans

- ▶ Velocity is the slope of the position-time graph.
- ▶ Acceleration is the slope of the velocity-time graph.

Velocity is the slope of the position-time graph.



Acceleration is the slope of the velocity-time graph.



Increasing vs. Positive

- ▶ Increasing \neq Positive
- ▶ Decreasing \neq Negative
- ▶ Position increasing = Velocity positive (1D motion)
- ▶ Position decreasing = Velocity negative (1D motion)
- ▶ Velocity increasing = Acceleration positive (1D motion)
- ▶ Velocity decreasing = Acceleration negative (1D motion)
- ▶ Value increasing = Slope positive (on a graph)
- ▶ Value decreasing = Slope negative (on a graph)
- ▶ If velocity goes from -4 m/s to -7 m/s, velocity is *decreasing*, although speed is increasing. (1D motion)