Key Terms

- acceleration due to gravity acceleration of an object that is subject only to the force of gravity; near Earth's surface this acceleration is $9.80~\mathrm{m/s^2}$
- **average acceleration** change in velocity divided by the time interval over which it changed
- constant acceleration acceleration that does not change with respect to time
- $\begin{tabular}{ll} \textbf{instantaneous acceleration} & \textbf{rate of change of velocity at a specific instant in} \\ & \textbf{time} \\ \end{tabular}$
- **kinematic equations** the five equations that describe motion in terms of time, displacement, velocity, and acceleration
- negative acceleration acceleration in the negative direction