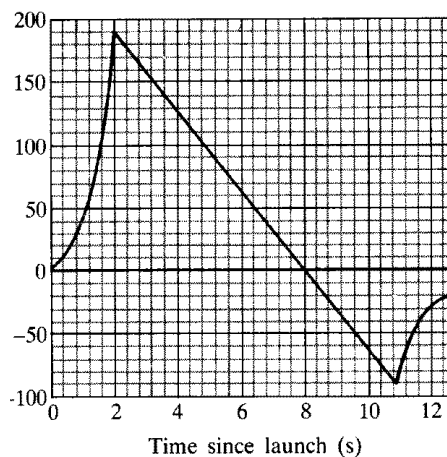


When a model rocket is launched, the propellant burns for a few seconds, accelerating the rocket upward. After burnout, the rocket coasts upward for awhile and then begins to fall. A small explosive charge pops out a parachute shortly after the rocket starts down. The parachute slows the rocket to keep it from breaking when it lands. The figure below shows velocity data from the flight of a model rocket. Use the data to answer the questions below.

1. How fast was the rocket climbing when the engine stopped?
2. For how many seconds did the engine burn?
3. When did the rocket reach its highest point? What was its velocity there?
4. When did the parachute pop out? How fast was the rocket falling then?
5. How long did the rocket fall before the parachute opened?
6. Very carefully sketch a graph of the height of the rocket (in feet) versus time (in seconds).



Velocity of a model rocket