7. (12 points) The graph below gives a rock climber’s height as a function of time as he climbs a small mountain. The height is measured in feet and the time is measured in hours. The line \( l(t) \) gives the tangent line to \( h(t) \) at time \( t = 1 \).

(a) For which time(s), if any, is the climber stopped?

(b) Does the climber speed up or slow down over the first three hours?

(c) What is the climber’s rate of ascent 1 hour into the climb?

(d) What is the climber’s height after 8.5 hours?

(e) If the maximum height the climber reaches is 800 feet, what is his average rate of ascent over the last 3.5 hours of his trip (i.e., for \( 8 < t < 11.5 \))?