1. Suppose that $(2, 4)$ and $(5, 6)$ lie on the line L. Find all points on L that are a distance of 2 from $(5, 6)$.

2. A particle that moves at a constant velocity is at $(2, 4)$ at 2, moves at a speed of 1, and intersects the point $(5, 6)$. Find an equation for the position of the particle at time t.

3. A particle moves at a constant velocity on $[2, 5]$ and $(5, 7]$. It is at $(0, 1)$ at time 2, at $(1, 5)$ at time 5 and at $(-2, 5)$ at time 7. Find an equation for the position, $\ell(t)$, of the particle at t.

4. Take L to be a line that passes through $(1, 1)$ and $(2, -5)$. Determine the point p in L so that the distance from $(1, 1)$ to p is three times the distance from p to $(2, -5)$.