11. [7 points] Two squirrels, Zini and Aladar, are quickly scavenging for their last acorns before returning to their dens for winter. At a time t seconds after they begin running, Zini's position on the diag is given by

$$x(t) = t, \qquad y(t) = t - 3$$

and Aladar's position is given by

$$x(t) = 4t, \qquad y(t) = t^2$$

for $0 \leq t \leq 5$. Assume $x(t)$ and $y(t)$ are measured in meters.

    a. [3 points] Find Aladar's **speed** 1 second after the squirrels begin running. Remember to include units.

    b. [4 points] Find the x- and y-coordinates of the point(s) where their **paths** intersect, if any.