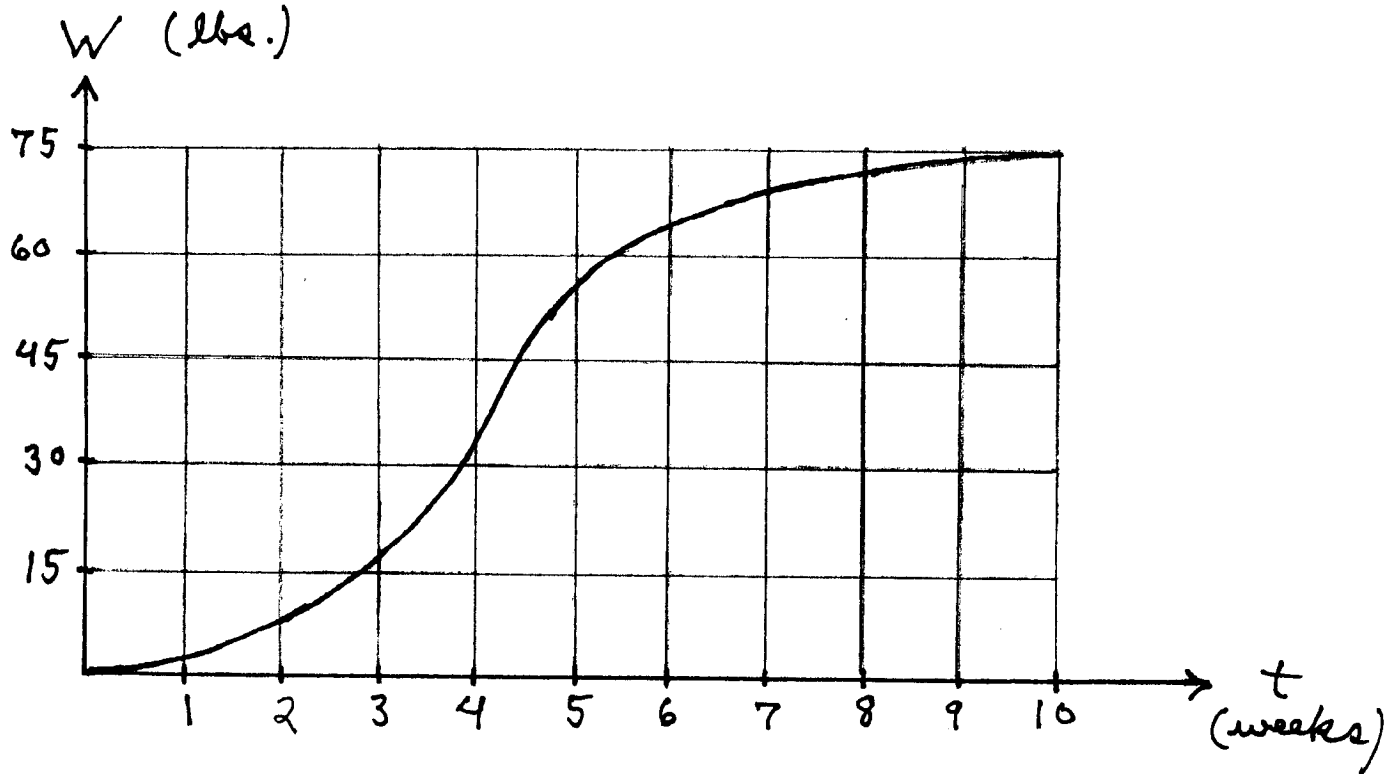Math 21A
Kouba
average and Instantaneous
Rates of Change

Ex: The given graph represents the weight W (lbs.) of a pumpkin from $t = 0$ weeks to $t = 10$ weeks.

W (lbs.)

1.) Estimate the pumpkin's average growth rate (lbs./week) for

i.) $t = 0$ to $t = 10$ weeks.   ii.) $t = 3$ to $t = 6$ weeks.

2.) Estimate the instantaneous growth rate of the pumpkin for

i.) $t = 1$ week.   ii.) $t = 5$ weeks.

3.) Estimate the specific time t at which the pumpkin is growing most rapidly, and estimate the value of this rate.