Lecture Handout #18: Nov 1

Application: Drug Dose-Response

Our patient takes a 100-mg dose of aphonystatin (Blipitor®). Find the maximum concentration of the drug in the patient's bloodstream.

Concentration in bloodstream after t hours: $C(t) = $ _____ mg/l

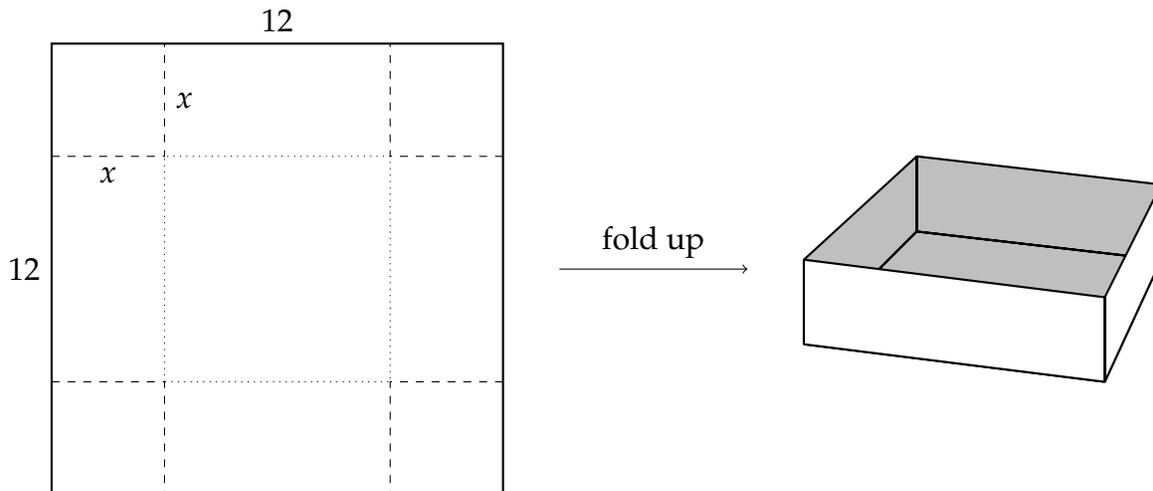Values of t to check: _____ _____ _____ _____

$C(t)$: _____ _____ _____ _____

Maximum concentration: $C = $ _____ mg/l at time $t = $ _____ hours

Application: Box Design

Form an open-top box: cut squares of length x from corners of a 12-inch-square piece of paper

Maximize the volume of the box: $V(x) = $ _____ · _____ · _____ $= $ _____

Domain of $V(x)$:

Values of x to check: _____ _____ _____ _____

$V(x)$: _____ _____ _____ _____

Maximum volume: $V = $ _____ cubic inches with $x = $ _____ inches