Due **Tuesday** Feb 13, at the start of the recitation.

Name your variables and make sure that what you write makes sense and follows proper mathematical form. A correct answer poorly explained will not get full marks.

· 5

1. Warfarin is a drug used as a an anticoagulant. (It is also used in rat poison.) After administration of the drug is stopped, the quantity in a patient's body decreases at a rate proportional to the quanitity remaining, i.e., the differential equation is

$$\frac{dW}{dt} = kW.$$

A patient took an unknown dose of Warfarin at 8am on Monday. Testing indicates that at 10am on Tuesday, the patient contains 4.00mg of Warfarin and at 10am on Wednesday, it contains 2.55mg. What was the unknown dose of Warfarin?