www.simiode.org
SIMIODE
A SYSTEMIC INITIATIVE FOR MODELING INVESTIGATIONS & OPPORTUNITIES WITH DIFFERENTIAL EQUATIONS

STUDENT VERSION
DRUG ADMINISTRATION

Brian Winkel, Director SIMIODE
Chardon OH 44024 USA
BrianWinkel@simiode.org

Abstract: A simple drug administration situation is modeled with only two observations.

SCENARIO DESCRIPTION

Jenny takes a drug (10 mg) every 8 hours. If she only took one dose, 5 mg would remain in her bloodstream after 6 hours.

1. Model the amount of drug in her bloodstream. Be sure to state your assumptions.
2. Describe the amount of drug in her bloodstream over the next 120 hour period (5 days) if this administration protocol is followed.
3. What concerns might there be about the levels of the drug in her bloodstream and how does your model address these?