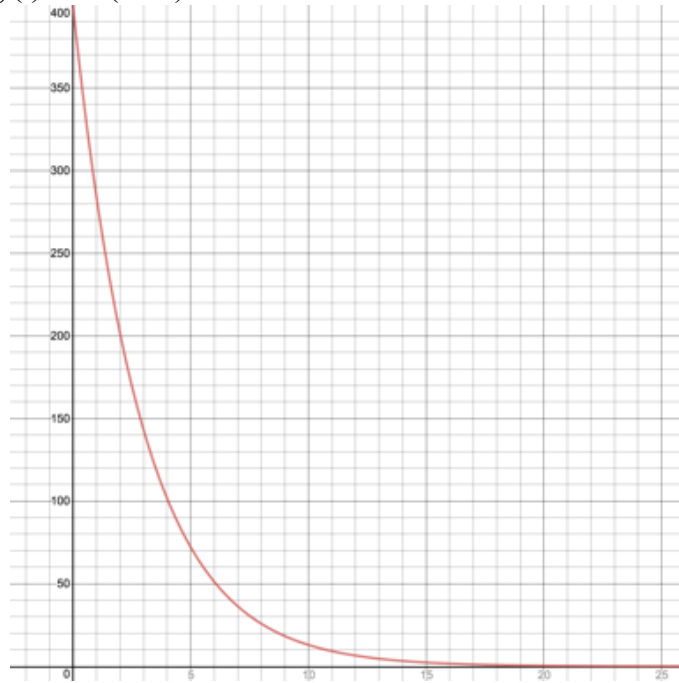# Intellectual Need Task for Limit Definition of Derivative

Vicki took 400 mg of Ibuprofen to relieve knee pain. The amount (mg) as a function of elapsed time (hours) is $f(t)=400(0.71)t$.

Approximate the rate of change of the amount of Ibuprofen in Vicki's body with respect to the number of hours elapsed when $t=4$:

     i.   -35 mg/hour
    ii.   -35 mg
   iii.   100 mg/hour
   iv.   100 mg
    v.   25 mg/hour
   vi.   25 mg