Lab sheet #7

-Arginase Activity in Liver-

A. Method

1. Set two test tubes as 'test' and 'standard'
2. Add 1 ml of working reagent to each test tubes
3. Pre-incubate for 3 min. at 37°C
4. Add 0.01 ml of liver sample and standard to the 'test' and 'standard' respectively
5. After exactly 30 seconds, read and record absorbance A1 against distilled water at 340nm.
6. At exactly 60 seconds after A1, record the absorbance A2 and determine ΔA (A1-A2).

B. Results:

	Time (seconds)	Absorbance at 340 nm
Standard	30 (A_1)	
	60 (A_2)	
	ΔA (A_1- A_2) =	
Serum	30 (A_1)	
	60 (A_2)	
	ΔA (A_1- A_2) =	

C. Calculations:

A Urea (mmol/L)= $\frac{\Delta A \text{ sample}}{\Delta A \text{ standard}}$ x Std. Conc. (30)

1. Urea produced in 1 minute = **A** mmol /min /0.01ml of liver extract.
2. Urea in 1ml of diluted liver extract = _____ x 100 = _____ mmol/min/ml of diluted liver extract.
3. Urea concentration in 1ml of undiluted liver extract = _____ x 3 x 5
4. Urea concentration in micromoles = _____ x1000 = _____ micromoles/min/ml.
5. Total activity present in liver = _____ x total volume of liver extract (80ml) = _____ micromole.
6. **Arginase activity as (µmol/g) of liver** = total activity in liver/ wt of liver (20g).

   _____ µmol/g