Bio390

RENAL PROBLEMS

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Calculate the rate of **pulmonary clearance** of CO_2 given the following information.

Cardiac Output: $\frac{4.8\ L}{min}$ V_E: $\frac{6\ L}{min}$

F_{ECO2}: 0.040 $[CO_2]$systemic venous blood: 54 vol%

$[CO_2]$systemic arterial blood: 49 vol%

ANS:_____

USE THE DATA IN THE TABLE TO ANSWER THE FOLLOWING QUESTIONS

SITE	CONCENTRATION $\frac{mg}{ml}$		
	Compound X	Glucose	Inulin
plasma	1.0	0.8	0.3
glomerular filtrate	0.6	0.8	0.3
urine	35.0	0.0	12.0

RATE OF URINE FORMATION: $\frac{3\ ml}{min}$

a. Estimate the rate of reabsorption of glucose.

ANS:_____

b. Which of the three listed compounds probably has the largest molecular weight? What is the basis for your answer?

c. Is compound X reabsorbed or secreted? Provide a quantitative answer and justification.