Bio390 **Clearance and Reabsorption**

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Use the following data to answer these questions.

renal inulin clearance: $\frac{100\ \text{ml}}{\text{min}}$

$[\text{inulin}]_{\text{arterial plasma}}$: $\frac{0.5\ \text{mg}}{\text{ml}}$

hematocrit: 0.40

renal PAH clearance: $\frac{600\ \text{ml}}{\text{min}}$

$[\text{glucose}]_{\text{arterial plasma}}$: $\frac{0.8\ \text{mg}}{\text{ml}}$

$[\text{glucose}]_{\text{urine}}$: $\frac{0.0\ \text{mg}}{\text{ml}}$

rate of urine formation: $\frac{0.5\ \text{ml}}{\text{min}}$

ESTIMATE:

a. plasma flow rate in the afferent arterioles: _____

b. plasma flow rate in the efferent arterioles: _____

c. plasma flow rate in the renal veins: _____

d. renal blood flow rate in renal artery in ml/min ____

e. GFR

f. the factor by which small solutes that are neither secreted nor reabsorbed are concentrated as compared to the plasma _____

g. rate of glucose reabsorption: _____

h. concentration of inulin in urine: _____

i. inulin excretion rate: _____

j. inulin concentration in renal venous plasma: _____