Bio390 **Fick's Principle and the Estimation of Cardiac Output**

Given the following:

For an HCT = 40 **bound** O_2 at saturation = 20 ml/dl

HCT = 50

Solubility of O_2 = 0.01 mlO_2/torr * dl blood

P_{AO2} =100 torr

arterial P_{CO2} = 40 torr; arterial [bicarbonate] = 24 mM

Right Atrial blood P_{O2} = 50 torr

Right Atrial pH = 7.3

$\dot{V}_E$ = 6 L/min @ STPD

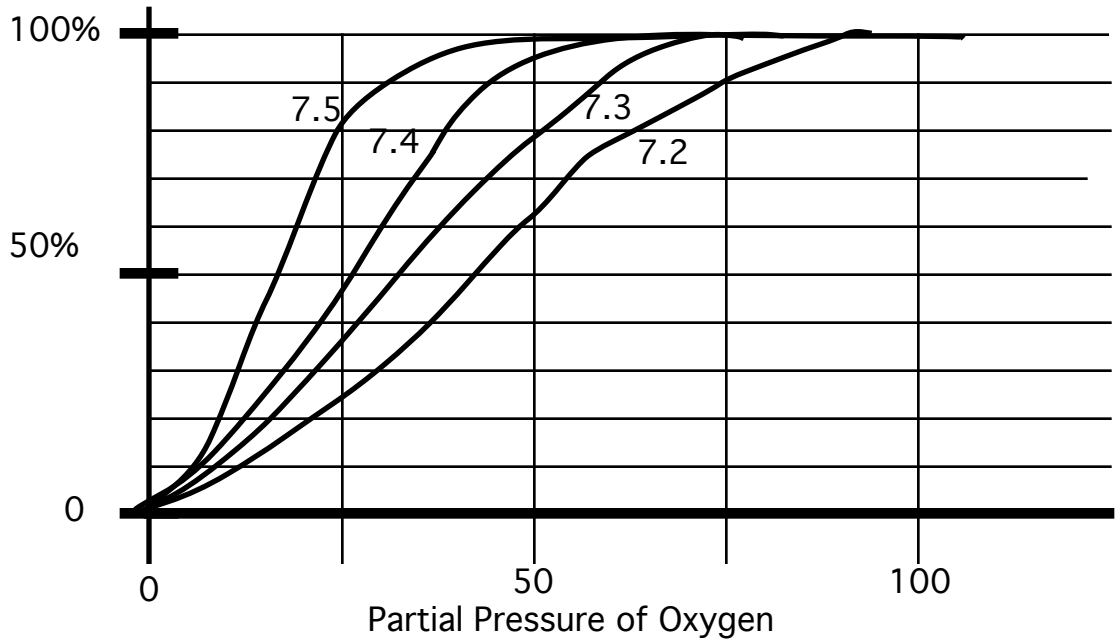
F_{EO2} = 0.16

F_{IO2} = 0.21

$\dot{V}_{O_2} = \dot{V}_E * (F_{IO2} - F_{EO2}) / (1 - F_{I)2})$

Heart rate = 60 beats / min

Here is the Hb - O_2 dissociation curve:



1. **Find this persons cardiac output ($\dot{Q}$).**
2. **Find their average stroke volume.**