Problem: Blood Gases and Dead Space[i]

Arterial blood of several individuals was analyzed for O_2 and CO_2 gas tensions (P_{aO2} and P_{aCO2}, respectively), O_2 concentration (C_{aO2} in $\frac{cc\ O_2}{100\ cc\ blood}$), and percent O_2 saturation (S_{aO2}).

INDIVIDUAL	P_{aO2}	P_{aCO2}	C_{aO2}	S_{aO2}
A	100	40	20	97
B	100	40	10	97
C	120	20	20	98
D	600	40	22	100
E	45	35	20	90

Assume individual A is a normal human breathing room air at sea level. Indicate what might be responsible for the blood gas values in the four other individuals.

B_____

C_____

D_____

E_____

Estimate V_D given the following information. Do not convert to STPD.

V_E: 0.5 liters
F_{ECO2}: 0.035
F_{ACO2}: 0.054
breathing rate: $\frac{15}{\text{min}}$

ANSWER: _____

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