

Does change in blood flow between two points constitute a change in velocity (i.e change in position) or acceleration (i.e. change in velocity)? The question stipulates that blood flow slows at a constant rate. Point 1 = 0.30m.s-1 & Point 2 = 0.20 m.s-1.

We have Bernoulli's principle that states that the flow of liquids across different cross-sections must conserve. So if the speed of fluid in two points is different than the surface across which it flows is different.

$$\frac{v_1^2}{2} + \frac{p_1}{\rho} = \frac{v_2^2}{2} + \frac{p_2}{\rho}$$

As we know

$$p = \frac{F}{s}$$

So through the smaller surface blood flows with higher speed but flow (amount of blood that intersect the surface) remain constant.

