2003 Form B AB3/BC3

A. $\frac{1}{360}\int_0^{360}\frac{B(x)}{2}dx$

B.

$$\frac{1}{360}\left[120\left(\frac{B(60)}{2}+\frac{B(180)}{2}+\frac{B(360)}{2}\right)\right]$$

$$=\frac{1}{360}\left[120\left(\frac{30}{2}+\frac{30}{2}+\frac{24}{2}\right)\right]$$

$$=14$$

C. This integral expression represents the volume of blood in cubic millimeters between the endpoints 125 mm and 275 mm from the end of the vessel.

D. By the Mean Value Theorem we know that B'(c)=0 for some c in (60,180) We also know that B'(d) =0 for some d in (240, 360). Applying the MVT to B' we know there is some place between (c,d) where B"(x) = 0.