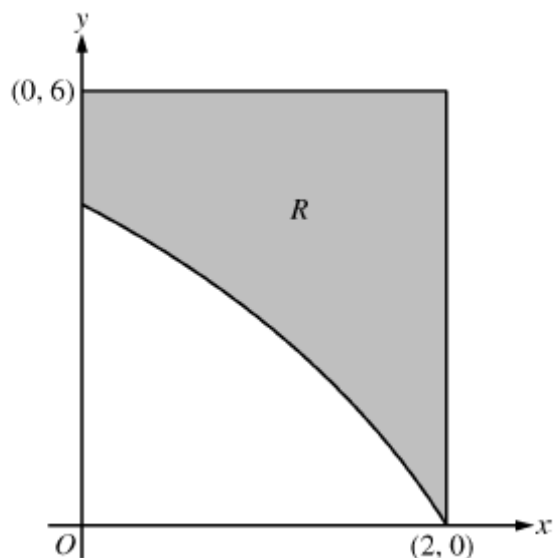


**“MR. CALCULUS” ANSWERS TO THE 2010 FORM B FREE RESPONSE QUESTIONS**

**AB/BC 1**



(a)  $\text{Area} = \int_0^2 (6 - 4 \ln(3 - x)) dx = \boxed{6.817}$

(b)  $\text{Volume} = \pi \int_0^2 ((8 - 4 \ln(3 - x))^2 - (2)^2) dx = \boxed{168.180}$

(c) The cross-section is a square and its area is length of a side squared.

$$\text{Volume} = \int_0^2 (\text{area of cross-section}) dx = \int_0^2 (6 - 4 \ln(3 - x))^2 dx = \boxed{26.267}$$