

Non-Calculator

1. Region R is bounded by $f(x) = x^2 + 3$, $f(x) = x + 1$, $x = 1$, $x = 3$. Find the Area of R.

2. Region R is bounded by $f(x) = x^2 + 1$, $f(x) = x$, $x = 0$, $x = 1$. Find the Volume generated by revolution of R about the x-axis.

3. $f(x) = 2x^3 - 3x^2 - 36x + 4$. Find the x-coordinate(s) for all the Relative Maxima and Relative Minima.

4. An object has a velocity of $v(t)$. The position at any time is given by $s(t)$. $s(10) = b$. Write an expression that will compute $s(3)$.

5. $\frac{d}{dx} \int_7^{\sin 2x} \sqrt{2t + 3} dt =$

6. $\int x\sqrt{x+2} dx =$

7. $\int \frac{6x+2}{3x^2+2x} dx$

8. Find the Average Value of $f(x) = \cos x$ on the interval $[0, \frac{\pi}{6}]$.

9. $\int 5x \sin^4(3x^2) \cos(3x^2) dx$

10. $\int e^{5x} dx =$