

Answer on Question #51611 – Math – Integral Calculus

Integrate with respect to x : $\int(1-36x^2-5x+2)dx$

Solution:

$$\begin{aligned}\int(1-36x^2-5x+2)dx &= \int 1dx - \int 36x^2dx - \int 5xdx + \int 2dx = \\ &= x - 36 \cdot \frac{x^3}{3} - 5 \frac{x^2}{2} + 2x + C = 3x - 12x^3 - \frac{5}{2}x^2 + C\end{aligned}$$

where C is an arbitrary real constant.

Integrate with respect to v : $\int(104v-632v^2)dv$

Solution:

$$\int(104v-632v^2)dv = \int 104v dv - \int 632v^2 dv = 104 \frac{v^2}{2} - 632 \frac{v^3}{3} + C = 52v^2 - \frac{632}{3}v^3 + C$$

where C is an arbitrary real constant.