

where A_0, \dots, A_{m_1-1} are arbitrary constants and the functions $\phi_1, \{C_k\}_{k=0}^{m_1-1}$ and f_{m_1} are defined by the formulas

$$\phi_1(x) = \int_c^x \frac{b_1(t)}{a_1(t)} dt, C_0(x) = 1, f_{m_1}(x) = \frac{1}{(m_1-1)!} \int_c^x (x-t)^{m_1-1} \frac{f(t)}{a_1(t)} dt$$

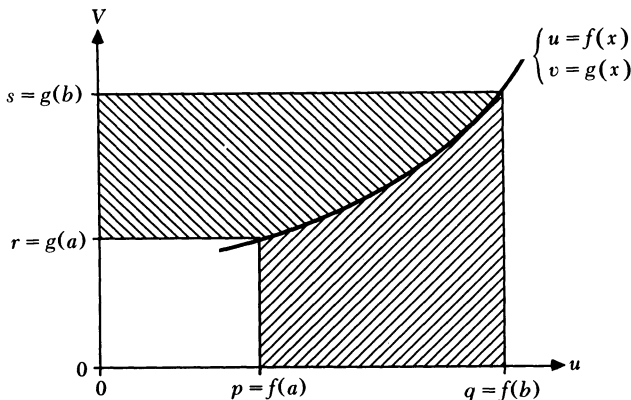
and for $k \geq 1$,

$$C_k(x) = \frac{1}{(k-1)!} \int_c^x \frac{(x-t)^{k-1}}{a_1(t)} dt.$$

REFERENCES

1. R. C. Buck and E. F. Buck, *Introduction to Differential Equations*, Houghton-Mifflin, Boston, 1976.
2. R. W. Hunt, *Differential Equations*, Brooks/Cole, Belmont, CA, 1973.
3. D. L. Kreider, R. G. Kuller, D. R. Ostberg and F. W. Perkins, *An Introduction to Linear Analysis*, Addison-Wesley, Reading, MA, 1966.
4. R. H. Martin, *Ordinary Differential Equations*, McGraw-Hill, Tokyo, 1983.
5. R. C. McCann, *Introduction to Ordinary Differential Equations*, Harcourt Brace Jovanovich, New York, 1982.
6. E. D. Rainville and P. E. Bedient, *Elementary Differential Equations*, Macmillan, New York, 1981.
7. S. L. Ross, *Introduction to Ordinary Differential Equations*, John Wiley and Sons, Inc., New York, 1974.
8. G. F. Simmons, *Differential Equations*, Tata-McGraw-Hill, New Delhi, 1974.
9. B. Spain, *Ordinary Differential Equations*, Van-Nostrand Reinhold, London, 1969.
10. M. R. Spiegel, *Applied Differential Equations*, Prentice Hall, Englewood Cliffs, NJ, 1981.

Proof without Words: Integration by Parts



$$\text{Area } \begin{array}{|c|} \hline \text{diagonal lines} \\ \hline \end{array} + \text{Area } \begin{array}{|c|} \hline \text{horizontal lines} \\ \hline \end{array} = qs - pr$$

$$\int_r^s u dv + \int_p^q v du = uv \Big|_{(p,r)}^{(q,s)}$$

$$\int_a^b f(x) g'(x) dx = f(x) g(x) \Big|_a^b - \int_a^b g(x) f'(x) dx$$

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