

$$\begin{aligned}\int \frac{x^{10} - 1}{x - 1} dx &= \int \frac{(x - 1)(x^9 + x^8 + x^7 + x^6 + x^5 + x^4 + x^3 + x^2 + x + 1)}{(x - 1)} dx \\ &= \int (x^9 + x^8 + x^7 + x^6 + x^5 + x^4 + x^3 + x^2 + x + 1) dx = \\ &= \frac{x^{10}}{10} + \frac{x^9}{9} + \frac{x^8}{8} + \frac{x^7}{7} + \frac{x^6}{6} + \frac{x^5}{5} + \frac{x^4}{4} + \frac{x^3}{3} + \frac{x^2}{2} + x + Const\end{aligned}$$