

$$\begin{aligned}
\int \frac{x^3 - x^2 - 9x + 10}{x^2 - 9} dx &= \int \frac{x(x^2 - 9) - (x^2 - 9) + 1}{x^2 - 9} dx \\
&= \int \left(x - 1 + \frac{1}{x^2 - 9} \right) dx \\
&= \int \left\{ x - 1 + \frac{1}{6} \left(\frac{1}{x-3} - \frac{1}{x+3} \right) \right\} dx \\
&= \frac{1}{2} (x-1)^2 + \frac{1}{6} \log |x-3| - \frac{1}{6} \log |x+3| + C \\
&= \frac{1}{2} (x-1)^2 + \frac{1}{6} \log \left| \frac{x-3}{x+3} \right| + C
\end{aligned}$$

(Cは積分定数)