εξειδικευμένο φροντιστήριο μαθηματικών
ΚΑΡΙΝΙΩΤΑΚΗΣ ΝΙΚΟΣ
Μαθηματικός

ΕΚΤΩΡΟΣ 30 · ΚΟΡΥΔΑΛΛΟΣ
Τ: 210 4978037 · Κ: 6937 728625
Ε: info@apodeixis.gr
www.apodeixis.gr

ΤΥΠΟΛΟΓΙΟ ΠΑΡΑΓΩΓΟΙ-ΟΛΟΚΛΗΡΩΜΑΤΑ

ΠΑΡΑΓΩΓΟΙ

Απλές συναρτήσεις

$(\alpha)' = 0 , \alpha \in \mathbb{R}$

$(\chi)' = 1$

$(\chi^{\kappa})' = \kappa\chi^{\kappa-1} , \kappa \in \mathbb{R}$

$(\sqrt{\chi})' = \frac{1}{2\sqrt{\chi}}$

$(\frac{1}{\chi})' = -\frac{1}{\chi^2}$

$(e^{\chi})' = e^{\chi}$

$(\alpha^{\chi})' = \alpha^{\chi} \ln \alpha , \alpha > 0, \alpha \neq 1$

$(\ln \chi)' = \frac{1}{\chi}, \chi > 0$

$(\eta\mu\,\chi)' = \sigma\upsilon\nu\,\chi$

$(\sigma\upsilon\nu\,\chi)' = -\eta\mu\chi$

$(\varepsilon\varphi\,\chi)' = \frac{1}{\sigma\upsilon\nu^2\chi}$

$(\sigma\varphi\,\chi)' = -\frac{1}{\eta\mu^2\chi}$

Σύνθετες συναρτήσεις

$[f^{\kappa}(\chi)]' = \kappa[f(\chi)]^{\kappa-1}f'(\chi)$

$[\sqrt{f(\chi)}]' = \frac{1}{2f(\chi)} \cdot f'(\chi)$

$[\frac{1}{f(\chi)}]' = -\frac{1}{f^2(\chi)} \cdot f'(\chi)$

$(e^{f(\chi)})' = e^{f(\chi)} \cdot f'(\chi)$

$(\alpha^{f(\chi)})' = \alpha^{f(\chi)} \cdot f'(\chi) \cdot \ln \alpha$

$[\ln f(\chi)]' = \frac{1}{f(\chi)} \cdot f'(\chi)$

$(\eta\mu\, f(\chi))' = \sigma\upsilon\nu\, f(\chi) \cdot f'(\chi)$

$(\sigma\upsilon\nu\, f(\chi))' = -\eta\mu f(\chi) \cdot f'(\chi)$

$(\varepsilon\varphi\, f(\chi))' = \frac{1}{\sigma\upsilon\nu^2 f(\chi)} \cdot f'(\chi)$

$(\sigma\varphi\, f(\chi))' = -\frac{1}{\eta\mu^2 f(\chi)} \cdot f'(\chi)$

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ΟΛΟΚΛΗΡΩΜΑΤΑ

Απλές συναρτήσεις

$\int dx = \chi + c$

$\int \chi^{\kappa}\, dx = \frac{\chi^{\kappa+1}}{\kappa+1} + c,\ \kappa \neq -1$

$\int \frac{1}{\sqrt{\chi}}\, dx = 2\sqrt{\chi} + c$

$\int \frac{1}{\chi^2}\, dx = -\frac{1}{\chi} + c$

$\int e^{\chi}\, dx = e^{\chi} + c$

$\int \alpha^{\chi}\, dx = \frac{\alpha^{\chi}}{\ln \alpha} + c$

$\int \frac{1}{\chi}\, dx = \ln|\chi| + c$

$\int \sigma\upsilon\nu\chi\, dx = \eta\mu\chi + c$

$\int \eta\mu\chi\, dx = -\sigma\upsilon\nu\chi + c$

$\int \frac{1}{\sigma\upsilon\nu^2\chi}\, dx = \varepsilon\varphi\chi + c$

$\int \frac{1}{\eta\mu^2\chi}\, dx = -\sigma\varphi\chi + c$

Σύνθετες συναρτήσεις

$\int f^{\kappa}(\chi) f'(\chi)\, dx = \frac{f(\chi)^{\kappa+1}}{\kappa+1} + c$

$\int \frac{f'(\chi)}{\sqrt{f(\chi)}}\, dx = 2\sqrt{f(\chi)} + c$

$\int \frac{f'(\chi)}{f^2(\chi)}\, dx = -\frac{1}{f(\chi)} + c$

$\int e^{f(\chi)} \cdot f'(\chi)\, dx = e^{f(\chi)} + c$

$\int \alpha^{f(\chi)} f'(\chi)\, dx = \frac{\alpha^{f(\chi)}}{\ln \alpha} + c$

$\int \frac{f'(\chi)}{f(\chi)}\, dx = \ln|f(\chi)| + c$

$\int f'(\chi)\sigma\upsilon\nu f(\chi)\, dx = \eta\mu f(\chi) + c$

$\int f'(\chi)\eta\mu f(\chi)\, dx = -\sigma\upsilon\nu f(\chi) + c$

$\int \frac{f'(\chi)}{\sigma\upsilon\nu^2 f(\chi)}\, dx = \varepsilon\varphi f(\chi) + c$

$\int \frac{f'(\chi)}{\eta\mu^2 f(\chi)}\, dx = -\sigma\varphi f(\chi) + c$