TABELAS DE CÁLCULO

DIFERENCIAÇÃO

e^x	e^x
$\ln x$	$1/x$
$\operatorname{sen} x$	$\cos x$
$\cos x$	$-\operatorname{sen} x$
$\operatorname{tg} x$	$\sec^2 x$
$\operatorname{cotg} x$	$-\operatorname{cosec}^2 x$
$\sec x$	$\sec x \cdot \operatorname{tg} x$
$\operatorname{cosec} x$	$-\operatorname{cosec} x \cdot \operatorname{cotg} x$
arc sen x	$1/\sqrt{1 - x^2}$
arc cos x	$-1/\sqrt{1 - x^2}$
arc tg x	$1/(1 + x^2)$
arc cotg x	$-1/(1 + x^2)$
arc sec x	$1/(x\sqrt{x^2 - 1})$
arc cosec x	$-1/(x\sqrt{x^2 - 1})$
sen u	$\cos u \cdot u'$
cos u	$-\operatorname{sen} u \cdot u'$
tg u	$\sec^2 u \cdot u'$
cotg u	$-\operatorname{cosec}^2 u \cdot u'$
sec u	$\sec u \cdot \operatorname{tg} u \cdot u'$
cosec u	$-\operatorname{cosec} u \cdot \operatorname{cotg} u \cdot u'$
arc sen u	$u'/\sqrt{1 - u^2}$
arc cos u	$-u'/\sqrt{1 - u^2}$
arc tg u	$u'/(1 + u^2)$
arc cotg u	$-u'/(1 + u^2)$
arc sec u	$u'/(u\sqrt{u^2 - 1})$
arc cosec u	$-u'/(u\sqrt{u^2 - 1})$

INTEGRAÇÃO

e^x	$e^x + c$
dx / x	$\ln x + c$
$\operatorname{sen} x\ dx$	$-\cos x + c$
$\cos x\ dx$	$\operatorname{sen} x + c$
$\sec^2 x\ dx$	$\operatorname{tg} x + c$
$\operatorname{cosec}^2 x\ dx$	$-\operatorname{cotg} x + c$
$\sec x \cdot \operatorname{tg} x\ dx$	$\sec x + c$
$\operatorname{cosec} x \cdot \operatorname{cotg} x\ dx$	$-\operatorname{cosec} x + c$
$\operatorname{tg} x\ dx$	$-\ln[\cos x] + c$
$\operatorname{cotg} x\ dx$	$\ln[\operatorname{sen} x] + c$
$\sec x\ dx$	$\ln[\sec x + \operatorname{tg} x] + c$
$\operatorname{cosec} x\ dx$	$\ln[\operatorname{cosec} x - \operatorname{cotg} x] + c$
$\operatorname{sen}^2 x\ dx$	$\frac{1}{2}x - \frac{1}{4}\operatorname{sen} 2x + c$
$\cos^2 x\ dx$	$\frac{1}{2}x + \frac{1}{4}\operatorname{sen} 2x + c$
$du / \sqrt{a^2 - u^2}$	arc sen $(u/a) + c$
$du / (a^2 + u^2)$	$(1/a)$ arc tg $(u/a) + c$
$du / (u\sqrt{u^2 - a^2})$	$(1/a)$ arc sec $\lvert u/a \rvert + c$

INTEGRAÇÃO POR PARTES

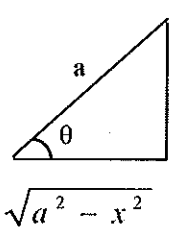
$$\int u\,dv = uv - \int v\,du + c$$

SUBSTITUIÇÃO TRIGONOMÉTRICA

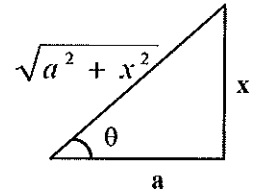
INTEGRANDO	SUBSTITUIÇÃO	IDENT. UTILIZADA
(a) $\sqrt{a^2 - x^2}$	$x = a \cdot \operatorname{sen}\theta$	$1 - \operatorname{sen}^2\theta = \cos^2\theta$
(b) $\sqrt{a^2 + x^2}$	$x = a \cdot \operatorname{tg}\theta$	$1 + \operatorname{tg}^2\theta = \sec^2\theta$
(c) $\sqrt{x^2 - a^2}$	$x = a \cdot \sec\theta$	$\sec^2\theta - 1 = \operatorname{tg}^2\theta$

TRIGONOMETRIA

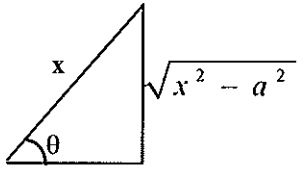
$\operatorname{sen}^2 t + \cos^2 t = 1$
$1 + \operatorname{tg}^2 t = \sec^2 t$
$1 + \operatorname{cotg}^2 t = \operatorname{cosec}^2 t$
$\operatorname{tg} t = \operatorname{sen} t / \cos t$
$\operatorname{cotg} t = \cos t / \operatorname{sen} t$
$\operatorname{tg} t \cdot \operatorname{cotg} t = 1$
$\operatorname{sen} t \cdot \operatorname{cosec} t = 1$
$\cos t \cdot \sec t = 1$
$\operatorname{sen} 2t = 2\operatorname{sen} t \cdot \cos t$
$\cos 2t = \cos^2 t - \operatorname{sen}^2 t$
$\cos^2 t = \frac{1}{2}(1 + \cos 2t)$
$\operatorname{sen}^2 t = \frac{1}{2}(1 - \cos 2t)$



(a)



(b)



(c)

Professora: *MAGALI*

Aluno (a): _____