

FOURIEROV RED			
INTERVAL	SIMETRIČAN		NESIMETRIČAN
PARNOST	PARNA (razvoj po kosinus f-jama)	NEPARNA (razvoj po sinus funkcijama)	NI PARNA NI NEPARNA
a_0	$\frac{2}{L} \int_0^L f(x) dx$	0	$\frac{2}{T} \int_a^b f(x) dx$
a_n	$\frac{2}{L} \int_0^L f(x) \cos \frac{n\pi x}{L} dx$	0	$\frac{2}{T} \int_a^b f(x) \cos \frac{2n\pi x}{T} dx$
b_n	0	$\frac{2}{L} \int_0^L f(x) \sin \frac{n\pi x}{L} dx$	$\frac{2}{T} \int_a^b f(x) \sin \frac{2n\pi x}{T} dx$
$S(x)$	$\frac{a_0}{2} + \sum_{n=1}^{\infty} a_n \cos \frac{n\pi x}{L}$	$\sum_{n=1}^{\infty} b_n \sin \frac{n\pi x}{L}$	$\frac{a_0}{2} + \sum_{n=1}^{\infty} a_n \cos \frac{2n\pi x}{T} + b_n \sin \frac{2n\pi x}{T}$
Parsevalova jednakost	$\frac{a_0^2}{2} + \sum_{n=1}^{\infty} a_n^2 + \sum_{n=1}^{\infty} b_n^2 = \frac{2}{T} \int_a^b f(x) ^2 dx$		

FOURIEROV INTEGRAL			
PARNOST	PARNA	NEPARNA	NI PARNA NI NEPARNA
$A(\lambda)$	$\frac{2}{\pi} \int_0^{\infty} f(x) \cos \lambda x dx$	0	$\frac{1}{\pi} \int_{-\infty}^{\infty} f(x) \cos \lambda x dx$
$B(\lambda)$	0	$\frac{2}{\pi} \int_0^{\infty} f(x) \sin \lambda x dx$	$\frac{1}{\pi} \int_{-\infty}^{\infty} f(x) \sin \lambda x dx$
$f(x)$	$\int_0^{\infty} A(\lambda) \cos \lambda x d\lambda$	$\int_0^{\infty} B(\lambda) \sin \lambda x d\lambda$	$\int_0^{\infty} (A(\lambda) \cos \lambda x + B(\lambda) \sin \lambda x) d\lambda$

LAPLACE	
Laplaceov transformat	$F(s) = \int_0^{\infty} e^{-st} f(t) dt$
Zapis preslikavanja originala u sliku	$f(t) \rightarrow F(s)$
Linearnost	$\alpha f(t) \rightarrow \alpha F(s)$

Step funkcija	$u(t) \rightarrow \frac{1}{s}$	
Ekspencijalna funkcija	$e^{at} \rightarrow \frac{1}{s - a}$	
Trigonometrijske i hiperbolne funkcije	$\sin \omega t \rightarrow \frac{1}{s^2 + \omega^2}$	$\cos \omega t \rightarrow \frac{s}{s^2 + \omega^2}$
	$\operatorname{sh} \omega t \rightarrow \frac{1}{s^2 - \omega^2}$	$\operatorname{ch} \omega t \rightarrow \frac{s}{s^2 - \omega^2}$
Polinomi	$t^n \rightarrow \frac{n!}{s^{n+1}}$	
Teorem o prigušenju	$e^{-at} f(t) \rightarrow F(s + a)$	
Teorem o pomaku	$f(t - a)u(t - a) \rightarrow e^{-as} F(s)$	
Gate funkcija	$g_{[a,b]}(t) = u(t - a) - u(t - b)$	$g_{[a,b]}(t) \rightarrow \frac{e^{-as}}{s} - \frac{e^{-bs}}{s}$
Deriviranje originala	$f^{(n)}(t) \rightarrow s^n F(s) - s^{n-1} f(0) - s^{n-2} f'(0) - \dots - f^{(n-1)}(0)$	
Deriviranje slike	$t^n f(t) \rightarrow (-1)^n F^{(n)}(s)$	
Integriranje originala	$\int_0^t f(t) dt \rightarrow \frac{F(s)}{s}$	
Integriranje slike	$\frac{f(t)}{t} \rightarrow \int_s^\infty F(s) ds$	
Slika periodične funkcije	$F(s) = \frac{1}{1 - e^{-sT}} \int_0^T e^{-st} f(t) dt$	
Konvolucija	$(f_1 * f_2)(t) = \int_0^t f_1(\tau) f_2(t - \tau) d\tau$	$(f_1 * f_2)(t) \rightarrow F_1(s) F_2(s)$
Primjena	Otpor R	
	Induktivitet sL	
	Kapacitet $\frac{1}{sC}$	