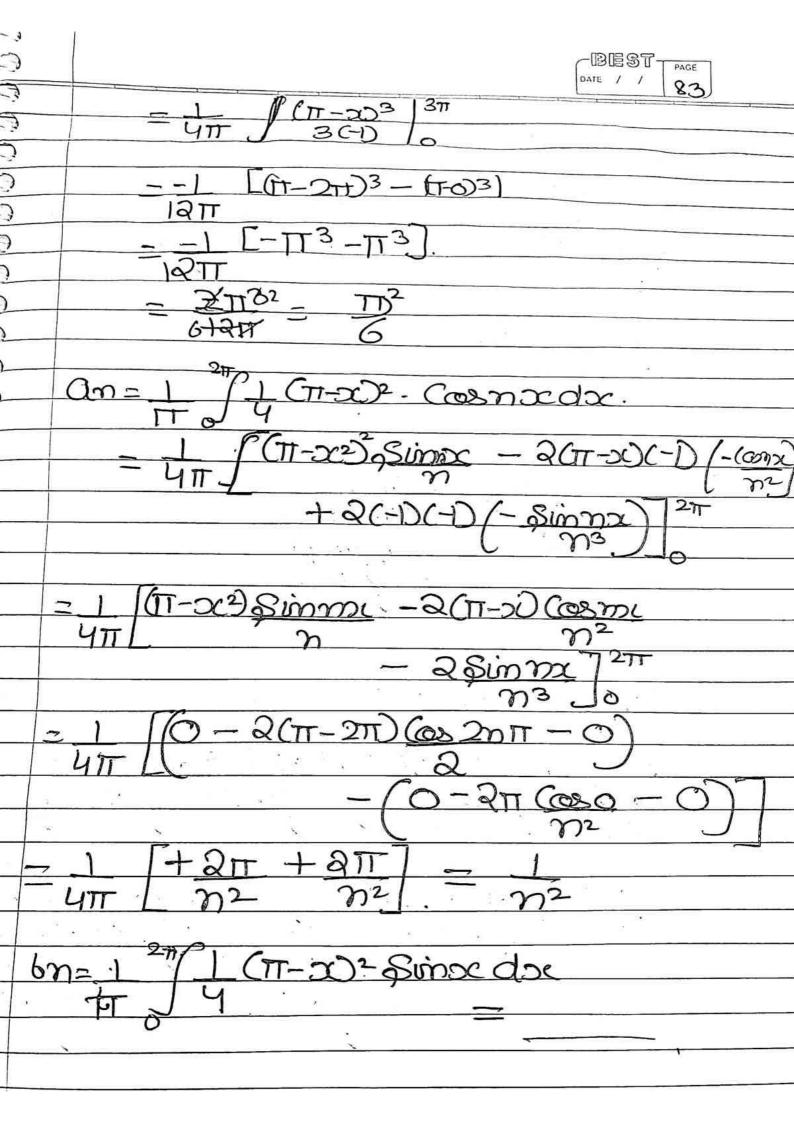
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				-
#	Fouvier Series!			
77	Souther 7		•	Ì
		E.		
	$\int x^n dx = x^{n+1}$	+ C		
	77-1	<u> </u>		
	(Sinacdx = - Cos	200 100		
	30113201X- COS			
	(Cosxdx = Sin	x + 0	<i>C</i> .	
	Jassacha - gui			
		3xv - 8		_(
				_
	Integeration By po	sets:/	Euler Formula	2
				-
1 95	Puvdoc = ufvdo	c- ju	(vasc)	(
		000		(
	OR	Terr	a e y	(
			-, -	
^ * * 3	(U.Vdoc = UV, - U/2)	U"V3-	- U''Vy	
		++		
			· () = 1	
	0 0 1 1 1 1			-
	Some Important to	rmus	<u>us :</u>	
	0.421			
	1) PCOSMO COSMO do	<i>.</i>		
	<u> </u>	$m \neq n$		
	9 TT	m = m		
	ea:- (Cos 62 - Cos 701 ds	~ - T		
SR	y o) as on cos med	2 = N	TEACHER SIGNATUR	
• • • • • • • • • • • • • • • • • • • •				

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3	DATE / / PAGE
3	79
GIR	Show that the sories
7-	1-1-+1-1
3	is condo converger 3 4+
3	8
Son	Here a
)	Here & (-1) n-1 [(-1)
)	γ
	an=1 an+1=1
)	n n+1
	$\lim_{n\to\infty} an = \lim_{n\to\infty} \frac{1}{n} = 0$
	から からか 一切
	You.
	n <n+1 faalon<="" td=""></n+1>
	me mit
	=) 1 K 1 anti Kan.
	y)+1 , J)
	By lownity test, the E (-1) n-an is cyt.
/\	bu & lan1 = & 1(1)n-1 an1
	n=1 n=1
	= 2
	n=1 m
H	erep=1:80, By post it is not
	Convergent. / divergent.
	J. J
1.	Hence, the series is conditional
2	convie gent:

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#	Guen Funco 1 Odd Funco
	odd Jumen;
	A Funcy is is aid to the odd
	function if if (-x) = - if (x)
	add Junch; A Funch is said to the add function if f(-x) = - f(x)
	$\begin{array}{cccccccccccccccccccccccccccccccccccc$
	$\int \int \int \int (-\infty)^2 = (-\infty)^3$
	$D = -\varphi(\infty)$
	6
A	f(x) = Sin c
	Decor Singo
	$=-\sin x$
	$=-\mathcal{J}(\mathcal{O}(\mathcal{O}))$
	ruen Funcn!
	A Dunch is said to the
	ween funcy if if c-xo= if (x) ifon
	all x 0 0 0
	190 p (20) = 202 / (20)= Cosx
	D P(-DO) = (-DO)2 DP(-DO)2 (08(-2)
	$D = 2^2 \qquad D = \cos 2$
	$= \Omega(\infty)$ $= \rho(\infty)$
	5



	CIDIES II PAGE
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	f(x)= Cla+ 2 an Cosnx + 2 bn Sinna 2 n=1
	$f(\alpha) + \alpha + 2 \alpha + \alpha = 1$
-	0 2 1-1
-	
	whose
	C+21T
	0 1 (0000000
	$a = \frac{1}{\sqrt{a}} \sqrt{a}$
	11 0 0
	C+217
	an= 1 (fox) (osnox doc
	TT
	C (+217
	1 DOAN SIMPON (DOC.
	$\frac{\pi J \nu}{c}$
_	
	It's Hor Parryion socies of the
(Q1912)	Und brie fourth
	functifus -4 0 <x<211< th=""></x<211<>
-	
Cam	D(x)=1 (11-x)2=00+20nCosnx+
San	2 n=1
	2 In Sin Mac
	n=) -(1)
ř	Now, C+211
	$a_0 = 1$ ($f(x)dx$.
	TT J D
	211 271
	$= \int \int \int \int dx - x^2 dx - \int \int \int \int dx$
	- 11.
	· · · · · · · · · · · · · · · · · · ·
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 $6m = -2C-D_{m} = 3C-D_{m+1}$

Put these Values in rayno 80, Jécom Egn Due get

f(x)=x= = 2 2 C-Dn+1 Sim noc

-

0 000	The Original Demostians
Soom	The given function $f(x) = x$ $= f(x) = -x$ $= -f(x)$
	$\int_{0}^{\infty} \int_{0}^{\infty} (\infty) = \infty$
	$\Rightarrow \int_{-\infty}^{\infty} (-\infty)^2 - \infty$
	$D = -\psi(x)$
(#)	
	. The function is odd function
	so therefores
	Qo=0 1
	1 fourier series mile die
	4 yours issues were
	1000=m = 6mSimmy - D.
	$\int G_{\infty} = \infty = \frac{2}{5} \cos \sin n \propto -D$
	Now IT simma
# M M	6n=1/(x)dx
	$\pi \omega = \pi \omega U$
	$-\pi$
	- 1 Pasinada.
	TTJ
	1 = 0 (0xxxx + 8xxxx) N
	——————————————————————————————————————
	1 P-0 1 P-1 8015
	- 1 - T Cosnit + Similar - (-1) - Cosnati
	TL n
12	= 1 (-11-10 - 11-10)
	THE ME ME

Journer Series for ruen and Case I > If (x) is a liver function a class interval [-II, II] then

on a class of interval [-II, II] then

on = and fourier isseries

can the represented as $\frac{\partial}{\partial x} = \frac{\partial}{\partial x} + \frac{\partial}{\partial x} \frac{\partial}{\partial x} \cos x$ 2) Cosanie Servies. Case II -> 2f f(x) is odd function on a close interwal [-17,76) than ab=0, an=0 and fouring series can be refresented f(x)= 2 bn Sinnx -> Sinc Series Is Find the fourier socies of the food= or in [-TI]

$$\int (so) = -1) - 2 \int \frac{1}{12} + \frac{1}{3^2} + \frac{1}{3^2}$$

$$0 = -\frac{1}{4} - \frac{2}{11} \left[\frac{1}{12} + \frac{1}{32} + \frac{1}{52} + \frac{1}{32} \right].$$

$$\frac{1}{4} = \frac{-2}{11} \left[\frac{1}{12} + \frac{1}{32} + \frac{1}{52} + \frac{1}{52} + \frac{1}{52} \right].$$

$$\frac{-\Pi^2}{8} = \frac{1}{12} + \frac{1}{3^2} + \frac{1}{5^2} + \cdots = 0$$

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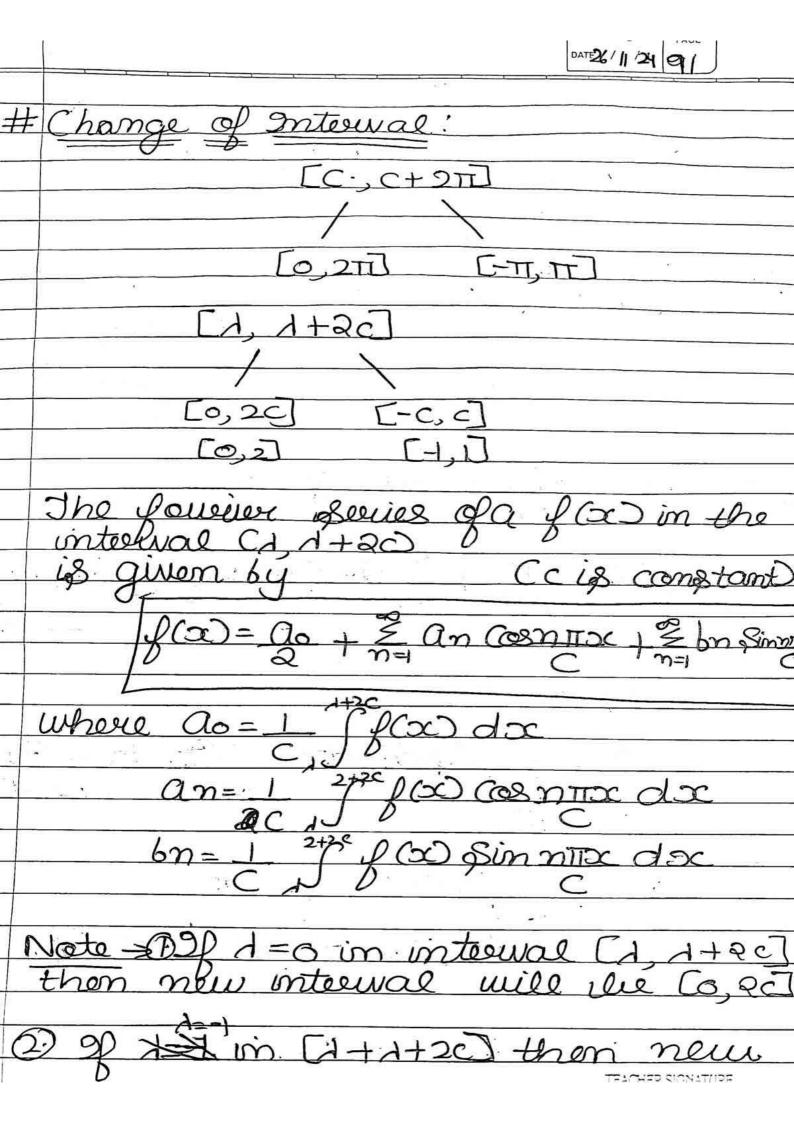
SO, when n is reven. -2/2° IT, when is odd. Ferom Egyn D Journer series will be -D + E SO, niveren Cosnox +

24 + n=1 (-2/m/n) niver coold

E S-1/m, niver Simm

n=1 2 3/m, niver and $-\frac{1}{4} + \left(-\frac{2}{1^{2}\pi} - \frac{2}{3^{2}\pi} - \frac{2}{$ + B Simx - 1' Sim + Sim3x -- 00)

DE of die Continuity: De having OULUM Deparsion = ao + 2 an Simor + 2 bn Sinna J-11dx +"/ J-TT Cosnoc doc + Becomply



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	interval will be [-1,1]	
	3) 9) d=-c in [d, d+2c] the intowne will lie [-c, c]	on new
	intounal will the I-C, C	
A	Jind the fourtier Beries funcy f(x) - STIX, OSX	las the
<u>Quest</u>	Dunch Ma) - PTIX. OSX	21
	D 2 TT(2-2), 1/2 2	48
		LO, 2
		[2, cc]
	C=	2
	11- 11- 11- 11- 00 C-1	
Salm	Hore the value of c=1	
<u> </u>	1080 1/00	
	D(x)-08 + 2 an Common +	,
	Q n=1	721
1 - 10 -	180 now,	× 11 = 1
	$\Omega_0 = 1^2 C_0 \Omega(x) dx = \Omega T_0 C_0$	1x + (1162-x)
	do= 1 flata de- frac	J do
	0 - 1	
	CO = II	
	$\Omega m = 1^2 \Omega(\alpha) Cosmo doc$	
	100	Cons
	- 1 Fix Cosniix dx + Gi	(2-X) & (4-X)
2 22		7
.,	an= 2/21 (-1)2-)	
SR		ביראבט פוטאזדוופם

bn=iff(x) sin nox da

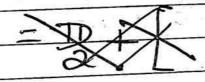
= STIX SIMMIX dx + STIR->USIMMID

180 from here

bn = 0

Put all these value in regn D

 $f(x) = \frac{\pi}{2} + \frac{2}{n=1} \frac{2}{n^2 \pi} [-D^n - I] (\cos n\pi x)$



-DEST T PAGE DATE 6/11/24 Half Range Sovies > Co, C) DOD is a function of a internal Sine Sources f(a)= 00° 2° an Country an= C n=1 Sinninc where of f(x) sin not dx Ja Cosnix da ous!) Find the half sunge sine series SR

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5	icen Here C=2
£	
	Sine Series find Sine Balf rung : an =0,4 an =0
	Sine Sexies of Fine Balf sung
	$\therefore an = 0.1.0n = 0$
_	80,
	$\rho(\alpha) = \sum_{i=1}^{n} b_{i} \otimes b$
	$\int_{n=1}^{\infty} \int_{n=1}^{\infty} \int_{n$
	where,
	bn= 2 fx Sinnix dx
	2) 2
_	1
_	$= \mathcal{X}(-\cos \pi \pi x) - -\sin \pi x ^2$
_	
_	myz myz
_	
	6n = 4 C-Don+1
	η T
	Put all these values in Egn D
_	y(x)= = 4 (-D7+1 Sin noc
	$n=1 m\pi$
	XX