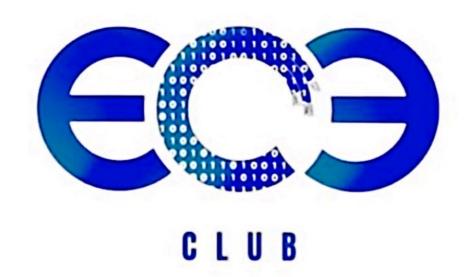
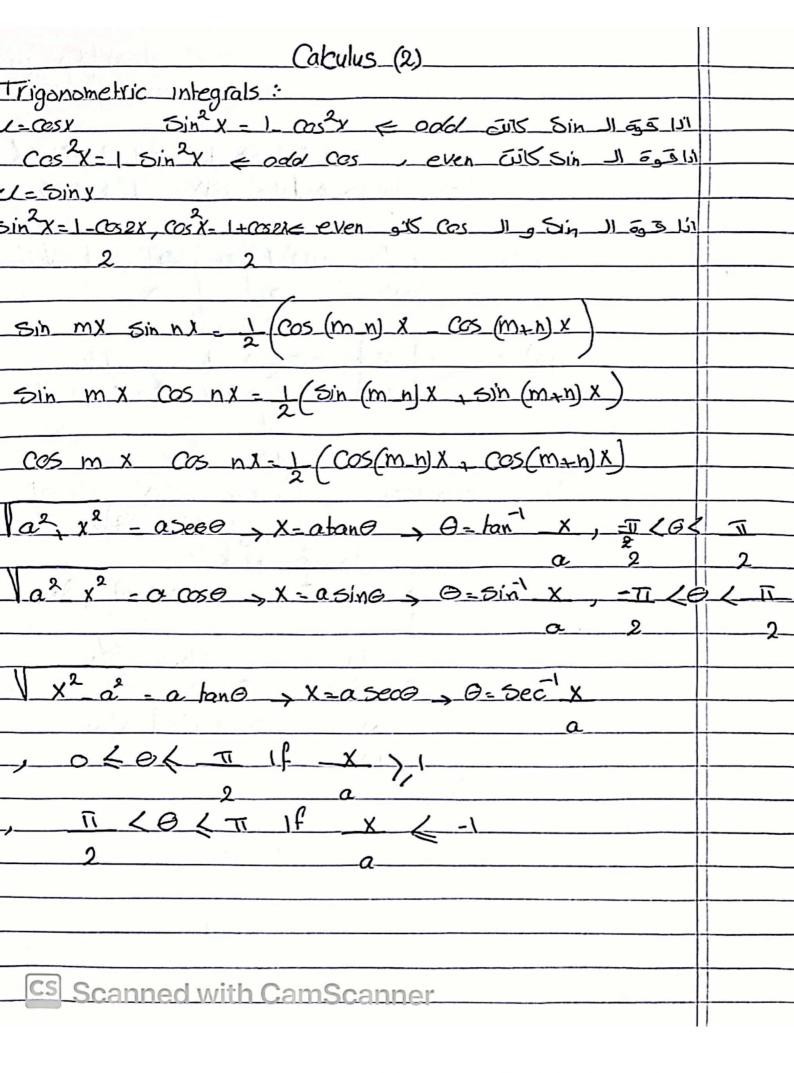
Calculus 2 summary By:hanan alawawda





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Kemem bet:	
$\cosh^2 x - \sinh^2 x = 1$	
Sinh 2X - 2 Sinh x Coshx	
$\cosh 2X = \cosh^2 X + \sinh^2 X$	
Cosh 2 X - Cosh 2 X + 1	
7 1 1 1 2 1 2	
$\sinh^2 x = \cosh 2x - 1$	
2 4 M Const	
$tanh^2 X = 1 - Sech^2 X$	
Ceth x = 1, c3ch2x	
$\cosh x = \sqrt{1 + \sinh^2 x}$	
$Sin^2 x + cos^2 x - 1$ $Sin(a+b) = Sin(a) cos(b) + cos(a) Sin(b)$	
Sin 2x = 25in x ces x)
$\cos 2x = \cos^2 x - \sin^2 x$	
= 1 _ 25in² x	
$= 2 \cos^2 x - 1$	
$Sec^2 X = 1 + tan^2 X$	
$CSC^2X = 1 + Cet^2X$	
CSC X = 1, Sec X = 1	
Siny Cesy	
30 60 45 0 90 180	
Sin 1 13 1 0 1 0	
COS 13 1 1 0 1	
tan 1 1 1 0 0	
√ <u>3</u>	
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<u> Nemember</u>
Sinx dx = Cosx, Cosx dx = - Sinx
tanx dx = sec2x, cotx dx = - csc2x
Secx dx = secx fanx, CSC dx 2 - CSCX Cot X
And how he had a second
$\int \ln x = x \ln x = x$
water the state of
$\int e^{x} = e^{x} dx$
tenthist I be track?
1 = Zelo 1 = 0 , n° = 0 , 0° = 0 , 0° = 0 , 0° = 0
e°= 0
vlna
$a^{\frac{1}{2}} = e^{\frac{1}{2} \ln a}$
$a^{x} dx = a^{x} \ln a dx$
- C
Jaudu = au
lna
Janu du = In Isecul
J-tan-u-du = In 1secul
Jest u du - In Sin (1)
$\underline{\qquad}_{0} \underline{\qquad}_{0} \underline$
Secudu = In Secu + fanul
Jese u du = In leseu retul
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Kemember.	
Sinhy - Coshu	
cosh u/ = Sin hu	
tanhy - Sech 2	
(cethu) = - CSch2u	
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(cschu) = cschu cothu	
102 con con a location of the contraction of the co	
Sinh $x = e^{x} - e^{x}$	
The first of the f	
$\cosh x = e^{x} + e^{-x}$	
con x = e + e	
$J_{\alpha n}h_{x} = e^{x} - e^{-x}$	
$-\pi$	
$ad b = a \times a \times a = x$	
$\frac{CGTILA = E + E}{e^{\chi}}$	
Sech $x = \frac{2}{e^{x} \cdot e^{-x}}$	
asal v	
$\frac{CSCN}{X} = \frac{Z}{A}$	
TSIN hu coshu coshu - sinh u	
- Sin ha _ Cesha _ Ces	
Seeh 2 u - tan hu ScSch2 u coth u	
Jen u = Jan na	
Sech a tanh u = Sech u Cosch u Cot hu = - CSCh u	
Jech William Con William - Con W	
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tomenser.

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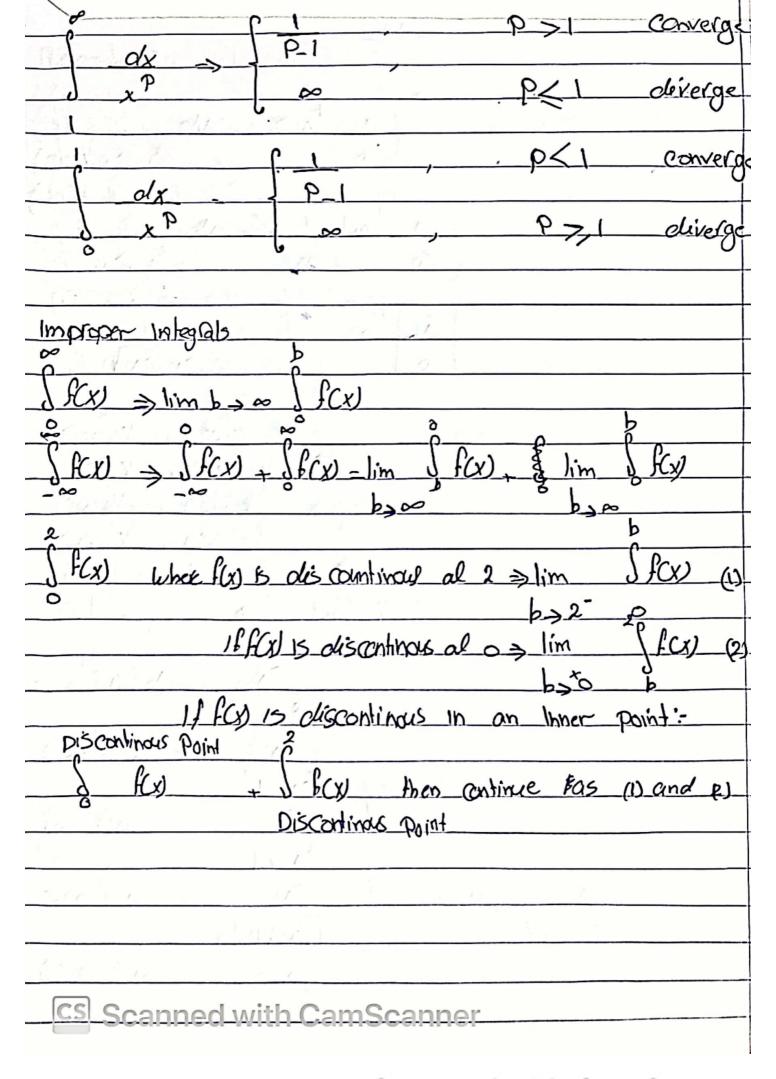
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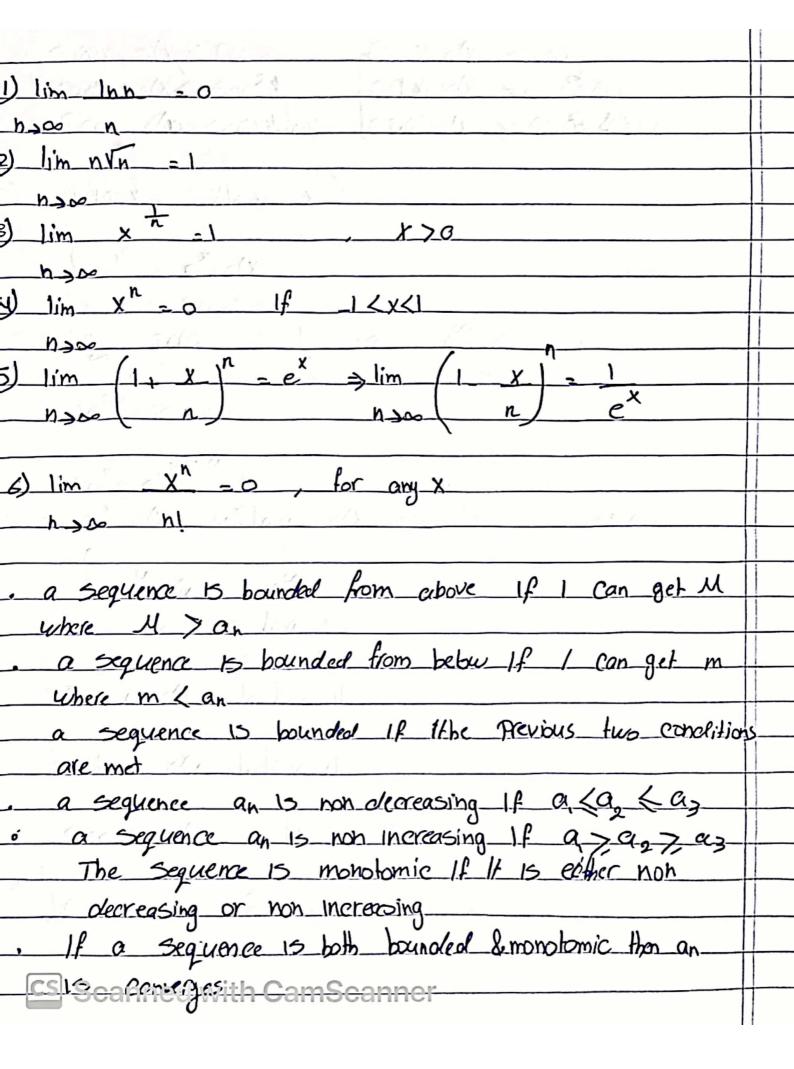
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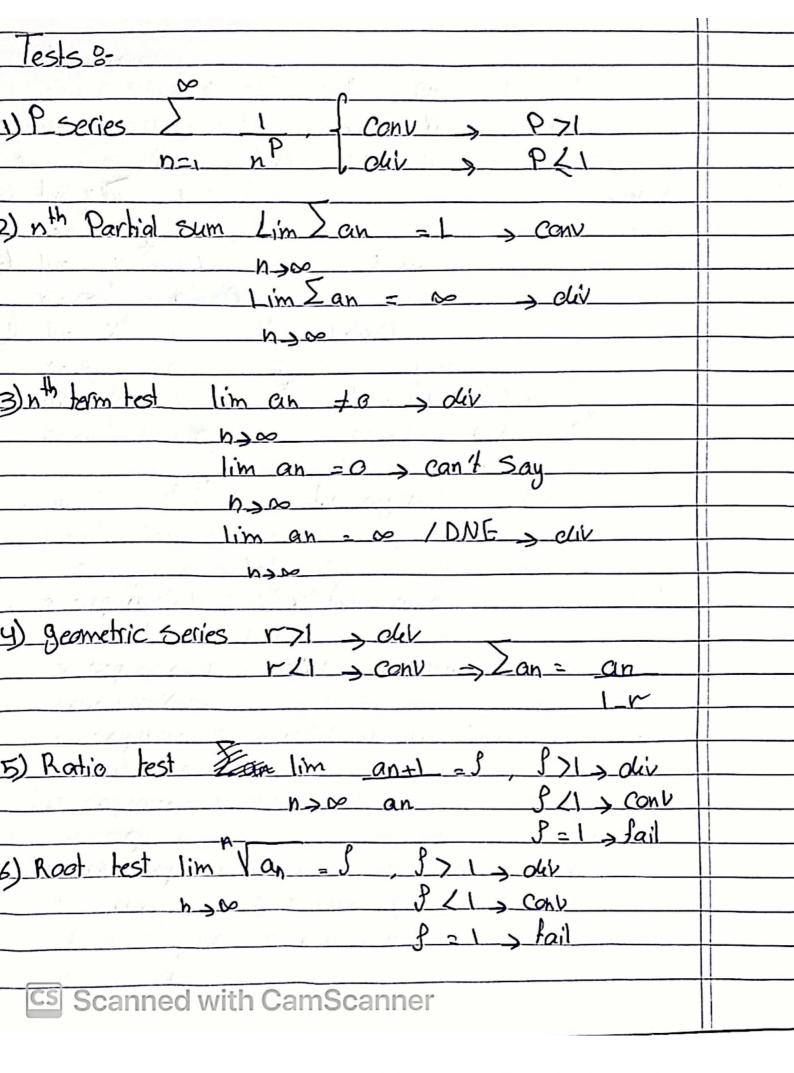
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7) limit comparasion test lim an -c, C>0 both conv /de
has by c=0 tanction co
$\Rightarrow a_n conv$
$c = \infty$ and $\sum bn$
⇒ an oliv
3-Un
8) Direct comparasion test If 5 bn is alive and 5 an > 5 bn
S) DIVECT COMPANY SIND TO SIND SAN JOH
then an 15 div too
1f5 bn 1s conv and San (Sbn
then by 15 canv to a
9) Integral test Sco) dx = conv > 2 an Conv
J - div > San div
10) Alternating series test (1) an conv If:-
1) All 1 > 0
1) lun / o
2) thrais decreasing for large n
3) lim den un= 0 If Not:
hao
(_1) an undir by nth term test
Sun 15 converge absolutly If I and 15 conv
Sun 13 converge conditionaly If I am 15 div
C D > 1 Cour cibs
The state of the s
$\frac{\sum_{i=1}^{n+1} \frac{1}{n^{p}}}{\sum_{i=1}^{n+1} \frac{1}{n^{p}}} \frac{1}{\sum_{i=1}^{n+1} \frac{1}{n^{p}}}} \frac{1}{\sum_{i=1}^{n+1} \frac{1}{n^{p}}} \frac{1}{\sum_{i=1}^{n+1} \frac{1}{n^{p}}} 1$
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Zan (x g) ⁿ > Power series	
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to find R and IC > apply Ratio or root test	
	1
ty taylor series generaled by fal x-a is	1
	1/2
> f(a)(x-a) f(a) + f(a)(x-a) + f(a)(x-a) +	
n=0 n1 0000 10 10 10 10 10 10 10 10 10 10 10	
100 - 50 - 15 - 10 - 10 - 10 - 10 - 10 -	
-aylor series generated by f al x=0 > Maclaurim series	
> fcol xn = fcol + fcol x + fcol x2 + fcol x3 +	
n=0 n! 2! 3!	
* 1 * 2 * 2 * 2 * 2 * 2 * 2 * 2 * 2 * 2	
	-
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