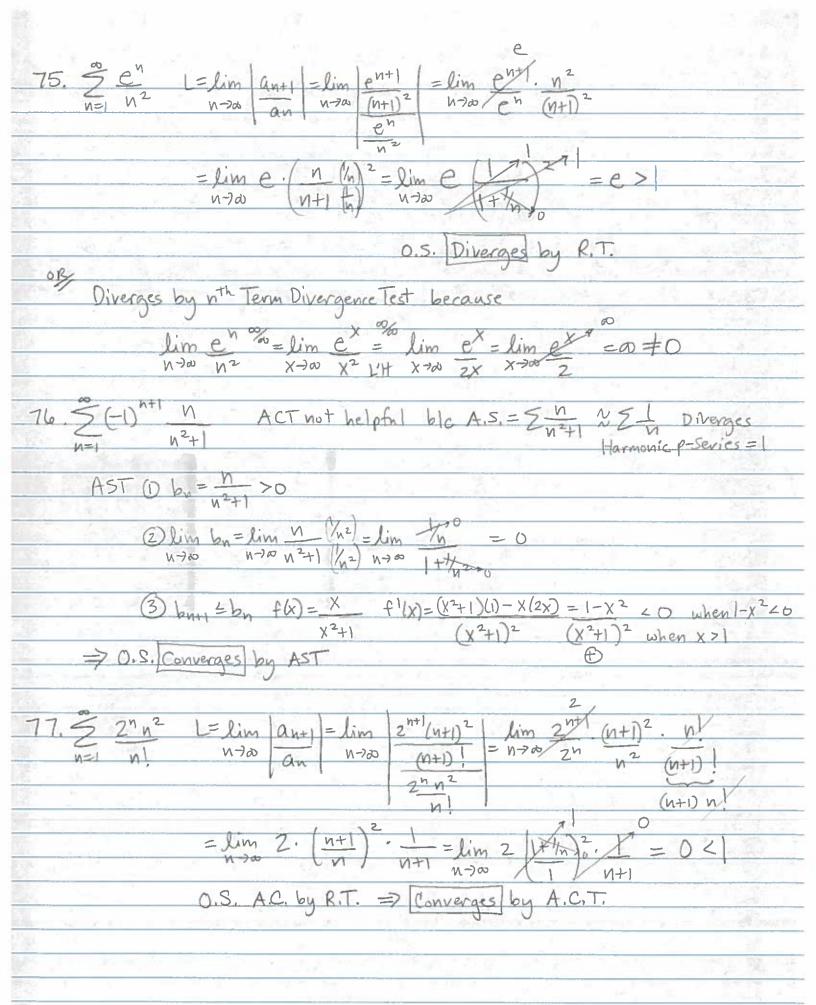
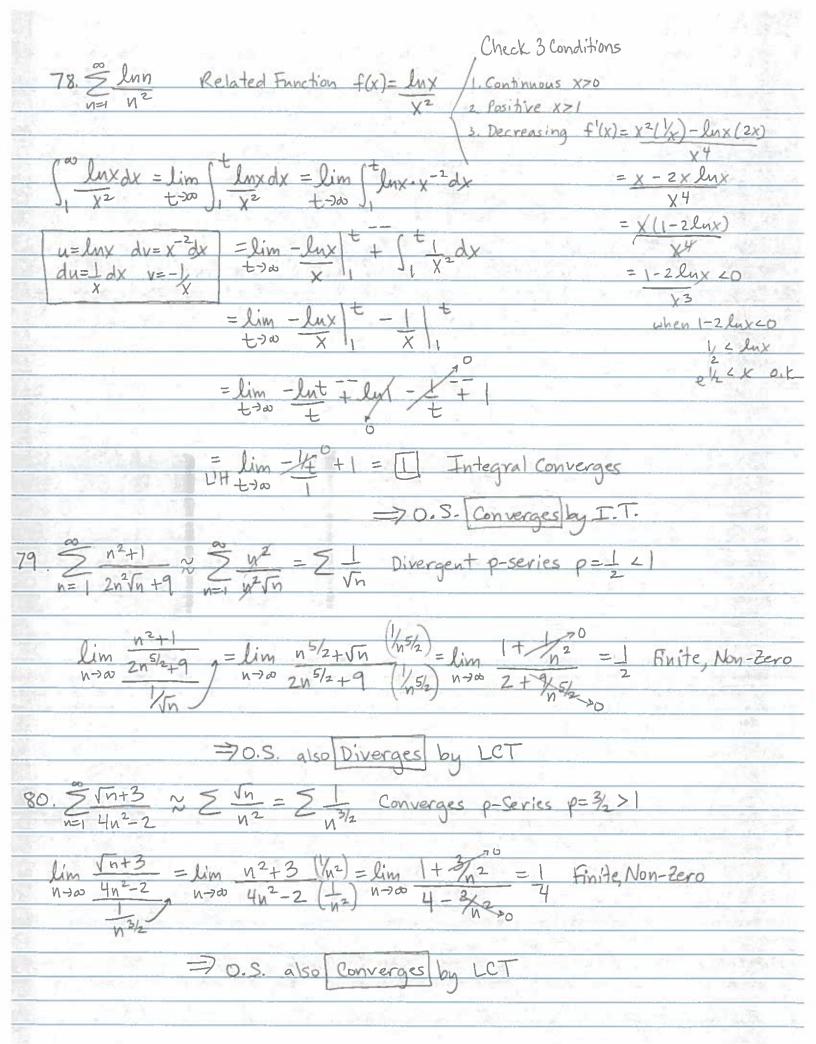


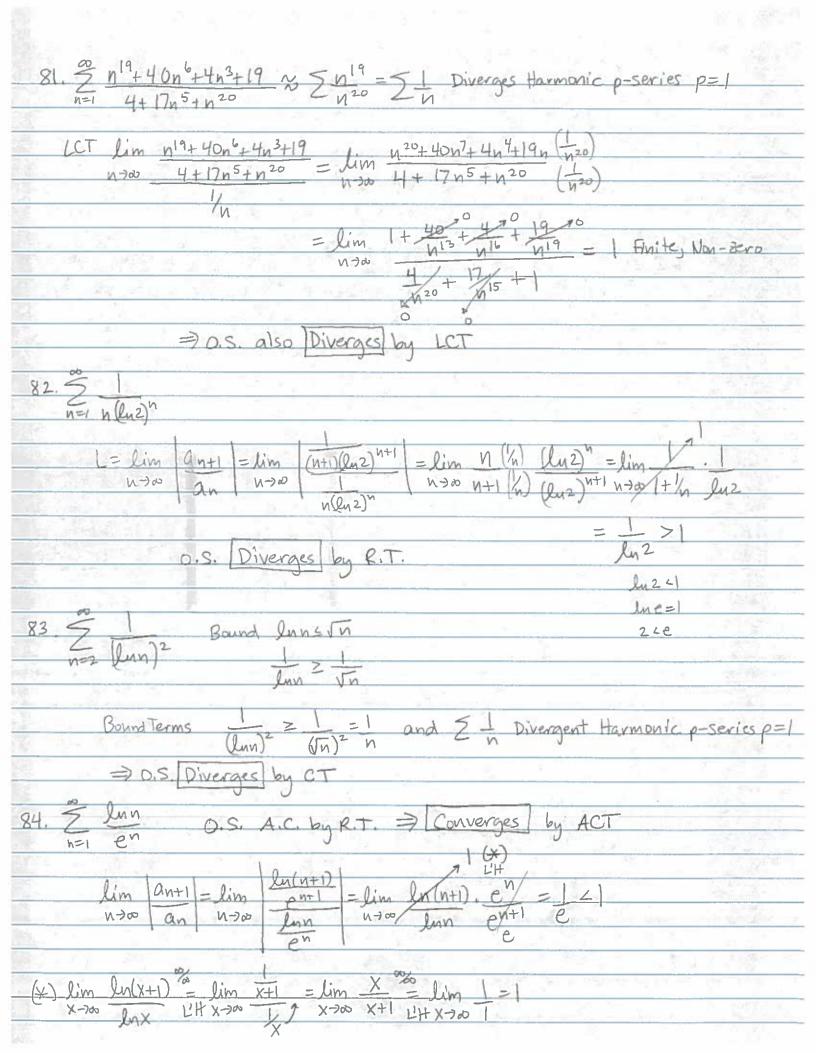
```
(65. \frac{5}{5}(-1)^{n+1}2^{n-1} = \frac{2^{\circ} - 2^{1} + 2^{2} - \dots}{3^{2} + 3^{3} + 3^{4}}
                  a = \frac{1}{9} \quad y = \frac{-2}{3} \quad SUM = \frac{9}{1-y} = \frac{1}{9} = \frac{1}{15}
                   Convergent Geometric 1 = 3 4
66. \frac{5}{5} \frac{3^{n+2}}{3^{4n-1}} = \frac{3^3}{3^3} + \frac{3^4}{3^5} + \frac{3^5}{3^7} + \frac{3^5}{3^{11}} + \frac{3^5}{3^5} + \cdots
               a = \frac{27}{8} v = \frac{3}{24} = \frac{3}{16}

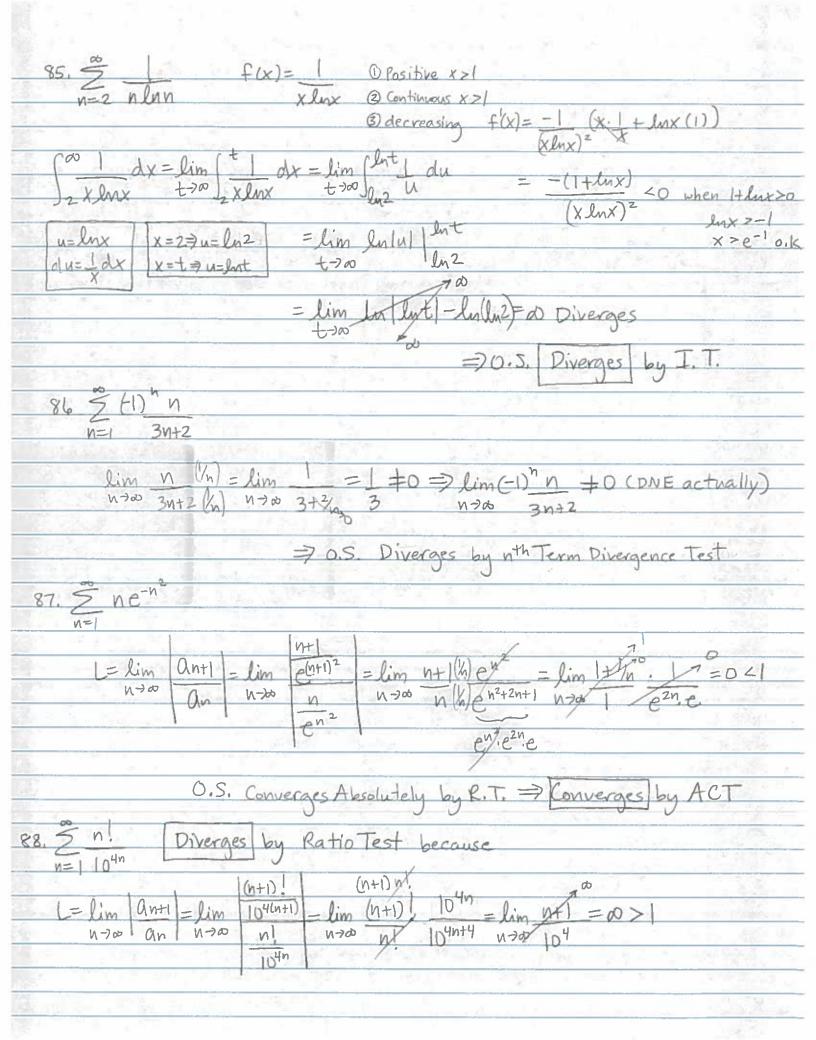
Convergent Geometric Series |r| = \frac{3}{16} \le 1 SUM= \frac{q}{|-r|} = \frac{27}{8} = \frac{27}{8} = \frac{54}{13}
67. 2 - 1 - 1 - 1 - 1 + 1 - ... Telescoping
    nth Partial Sun = Sn = 1-1/1 + V- 1 + Vn Vn Vn+1
                                   = |- -
             Full Sum 5 I - I = lim Sn=lim I - I = []
 (8. \stackrel{\circ}{>} (-1)^{n-1} = 1 - \frac{1}{3 \cdot 2^2} + \frac{1}{3 \cdot 2^3} - \frac{1}{3 \cdot 2^2}
                  a= 1 , v= -1 Convergent Geometric |r|= 1-1/2 = 2 < 1
                       SUM = \frac{9}{1-r} = \frac{1}{1-(-\frac{1}{2})} = \frac{1}{3}\frac{1}{2}
 9. Ze1/2-e1/2+e1/2-e1/3+ ... Telescoping
                Sn=e-e/2+e/2-e/3+...+e/n--e/h+e/n-en+1
            Full Sum = lim Sn = lim e-e nt = e-e = e-1
```

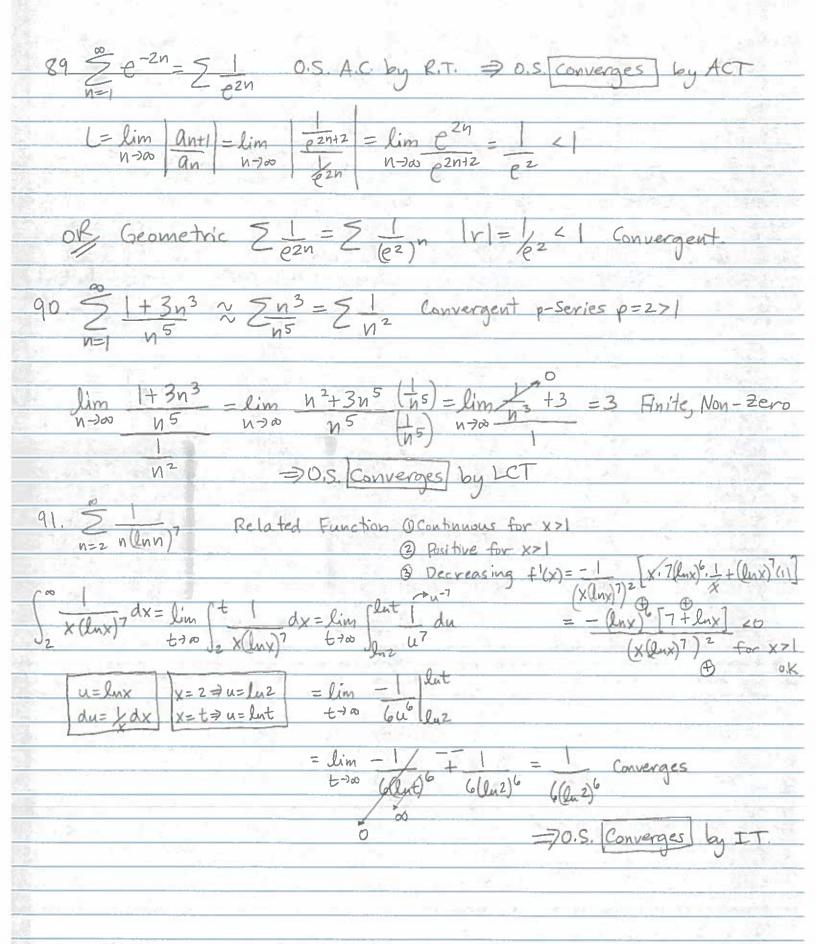
70.
$$\sum_{n=1}^{\infty} \frac{4^{n}}{3^{2n-1}} = \frac{4}{3} + \frac{4^{2}}{3} + \frac{4^{3}}{3^{3}} + \frac{4^{3}}{3^{5}} + \frac{4$$











92 5 arctann Bound Terms arctann & Til	, 11/
92 Sarctann Bound Terms arctann < 11/2 1 1+12 1+12	<u>L</u>
and 11/2	Z 1 Constant Multiple of Convergent Series p=221 is Convergent
=> O.S. Converges by CT	
OR More work Integral Test also works	
	0.6 15
Related Function $f(x) = \frac{arctan}{1+x^2}$	2 Positive for XZD
	3) Decreasing
Co arctanx dx = lim (t arctanx dx	$f'(x) = (1+x^2) \frac{1}{1+x^2} - \arctan x (2x)$
) 1+x2 +10) 1+x2	
u-sub?l	$(1+\chi^2)^2$
= lim (arctanx)2	= 1-2xarctanx LO
+ +00 2 1	(1+ x²)² €
$= \lim_{t\to\infty} \left(\frac{T/2}{a} \right)^2 - \left(\frac{T}{a} \right)^2 = \lim_{t\to\infty} \left(\frac{T^2}{4} - \frac{T^2}{16} \right)^2$	when 1-2x arctanx 40
= $\lim_{n \to \infty} (\operatorname{arctan}) = \lim_{n \to \infty} (\operatorname{arctan}) = \lim_$	$= \frac{3\pi^2}{2} \frac{1}{2} \leq x \arctan x \text{ o.k}$
0	32 eventually
	nverges X=T?
= 0.5. Converges/by I	
$93 \leq n^7$ $(n+1)^7$	
L= lim ant = lim ent = lim	into? en
4=1 h-100 an h-200 N7 h-200-	147 PN+1
en o	
= lim (n+1)7. [= lim (1+ /2)7.	1=12
N-DO (N) e M-DO (T)	e e
—————————————————————————————————————	Converges Absolutely by RT
70.5	Converges by ACT
	Zaviše
	200

