

SERIES

<p>RICH: Exan example series ->a1M formula to list an->An partial sums</p> <p>ExRich: example Rich: Richardson transform</p>	<pre> RAD HVZ DEC R= 'X' NAME SERIES RICH3 USR 6: 5: 4: 3: 2: 1: Exan +a1M an+an ExRich Rich HelpR </pre>	<pre> RAD HVZ DEC R= 'X' NAME SERIES RICH3 USR 6: 5: 4: 3: 2: 1: Exan +a1M an+an ExRich Rich HelpR </pre>
<p>HelpRich: help to programs</p>	<pre> RICHARDSON TRANSFORMATION IMPROVES CONVERGENCE OF SLOWLY CONVERGING SERIES E(n=0,%,an). WHEN THE SEQUENCE OF PARTIAL SUMS An=E(k=0,n,ak) HAS THE FORM An=q0+q1*n^1+q2*n^2+...+qn*n^n-D ONE GETS Q0 IN TERMS OF An..An+D. Q0=E(k=0,n,An(n+k)*(n+k)^n *(1)^(k+n)/(k!*(n-k)!)) Exan _ + 'an' M SEQUENCE +SKIP[SKIP+] +DEL DEL+ DEL L INS = </pre>	<pre> Exan +a1M an+an ExRich Rich HelpR EXAMPLES FOR +a1M an+an 'an' M + {a1..an} SEQUENCE UP TO M an+an 'an' M, {a1..an} + {a1..an} CALCULATE PARTIAL SUMS ExRich _ + {a1..an} n D EXAMPLE FOR Rich, NOTE n+D<M Rich {a1..an} n D + {a1..an} {a1..an} CALCULATES n TIMES Q0, PARTIAL SUM FROM 1 TO n +SKIP[SKIP+] +DEL DEL+ DEL L INS = </pre>
<p>SHANKS: Exan: examples Shanks transform an->An: partial sums</p> <p>Shanks: Shanks transform</p>	<pre> 6: 5: 4: 3: 2: 1: ExanS an+an ExSho Shank ExKSh KShan </pre>	<pre> 6: 5: 4: 3: 2: 1: ExanS an+an ExSho Shank ExKSh KShan </pre>
<p>Shanks: second example</p>	<pre> 6: 5: 4: 3: 2: 1: ExanS an+an ExSho Shank ExKSh KShan </pre>	<pre> 6: 5: 4: 3: 2: 1: ExanS an+an ExSho Shank ExKSh KShan </pre>
<p>HelpShanks</p>	<pre> ExShanks _ + {a1..an} EXAMPLE PARTIAL SUMS FOR Shanks Shanks {a1..an} + {a1..an} {S(a2)..S(aN-1)} SHANKS TRANSFORMATION ExKShanks _ + {a1..an} K EXAMPLE FOR Kshanks KShanks {a1..an} K + {L(aN S1..SN) S1..1} PERFORMS K TIMES Shanks, RESULT IN ARRAY 4 +SKIP[SKIP+] +DEL DEL+ DEL L INS = </pre>	<pre> ExShanks _ + {a1..an} EXAMPLE PARTIAL SUMS FOR Shanks Shanks {a1..an} + {a1..an} {S(a2)..S(aN-1)} SHANKS TRANSFORMATION ExKShanks _ + {a1..an} K EXAMPLE FOR Kshanks KShanks {a1..an} K + {L(aN S1..SN) S1..1} PERFORMS K TIMES Shanks, RESULT IN ARRAY 4 +SKIP[SKIP+] +DEL DEL+ DEL L INS = </pre>
<p>PADE: anPade: example Pade PX->1: insert 1 for series</p> <p>second example anPade PX->1 result</p>	<pre> RAD HVZ DEC R= 'X' NAME SERIES PADE3 USR 5: 4: 3: 2: 1: ExanP anPad ExLPa LPade an+L PX+1 </pre>	<pre> 5: 4: 3: 2: 1: ExanP anPad ExLPa LPade an+L PX+1 </pre>
<p>Example for lPade, PX->1</p>	<pre> 6: 5: 4: 3: 2: 1: ExanP anPad ExLPa LPade an+L PX+1 </pre>	<pre> 6: 5: 4: 3: 2: 1: ExanP anPad ExLPa LPade an+L PX+1 </pre>
<p>ExanPade: examples</p>	<pre> 6: 5: 4: 3: 2: 1: ExanP anPad ExLPa LPade an+L PX+1 </pre>	<pre> 6: 5: 4: 3: 2: 1: ExanP anPad ExLPa LPade an+L PX+1 </pre>
<p>ExlPade: examples</p>	<pre> 6: 5: 4: 3: 2: 1: ExanP anPad ExLPa LPade an+L PX+1 </pre>	<pre> 6: 5: 4: 3: 2: 1: ExanP anPad ExLPa LPade an+L PX+1 </pre>
<p>HelpPade: help</p>	<pre> 6: 5: 4: 3: 2: 1: ExanP anPad ExLPa LPade an+L PX+1 </pre>	<pre> 6: 5: 4: 3: 2: 1: ExanP anPad ExLPa LPade an+L PX+1 </pre>

HelpPade: help	<p>ExUPade = + Cal..aR> EXAMPLES FOR UPade UPade Cal..aR> N M + <3 PNM Pade P(X) OF LIST IF N+M<R an+1 a(n) n1 n2 + a(n) Ca(n1)..a(n2)> SEQUENCE TO LIST PN+1 P(X) + P(1..) GIVES VALUE OF (DIV.) SERIES FXD P(X) NO, <N1..> + P(X) P(XD), <P(X1)..> +SKIP SKIP+ +DEL DEL+ DEL L INS =</p>	<p><P(XD)..> NO + <..> <P(XD)..> FUNCTION VALUE GrFX P(X) + P(X) GRAPH GrReset = + _ RESET FCT PLOT To (-10,-6) (10,6) +Num 0 + 0' NUMERICAL APPROX. OF TERM, LIST HINT: IN APPROXIMATE MODE WITH IRS <ENTER> YOU GET NUMERIC COEFFICIENTS (FASTER). +SKIP SKIP+ +DEL DEL+ DEL L INS =</p>
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