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1 ' Interest Rates - flat and reducible
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3 '     The Astrad User, Jan. '89
10 MODE 2:PRINT"INTEREST": Comparison of flat and reduc
ible rates LKS 888189"
20 DEF FRed(i)=1/(1-(1+i)^-n) 'formula for repayments
at reducible rate: i=interest rate per period, n=number
of repayment periods
30 PRINT:INPUT"Enter term of the loan in years "y
40 IF y<1/12 THEN 30
50 n=y*12 'number of monthly repayments
60 INPUT"Enter flat rate of interest as percent per ann
us (e.g. 10) "r
70 IF r<1 THEN 60
80 PRINT"Term of loan:"y"year(s) @ "r"percent per annum,
repayable monthly"
90 r1=(1+y*r/100)/n 'repayment on flat rate
100 i=r/12/100 'first approx.: reducible=flat
110 rr=FRed(i) 'repayment if reducible=flat
120 i2=i*2 'twice the flat rate
130 rr2=FRed(i2) 'repayment if reducible=flat*2
140 '
150 WHILE ABS(rr1-rr2)>0.0000005
160 dy=rr2-rr 'difference
170 slope=dy/(i2-i)
180 i=i+(rr1-rr)/slope 'interpolate
190 rr=FRed(i)
200 WEND
210 '
220 f=(n*rr-1)/y*100 'check: compute flat rate from res
ult
230 i=i*12*100 'monthly rate converted to yearly rate
240 PRINT USING"Flat rate ###.###% is equivalent to red
ucible ###.###%";f;i
250 PRINT USING"Ratio of reducible to flat: 0.####";i/f
260 PRINT"Monthly repayment per $1 borrowed:"
270 PRINT USING"computed on flat rates 0.####";rr1
280 PRINT USING"computed on equivalent reducible rates
0.####";rr
290 GOTO 30

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