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5900 th#(j)=th#(j-1)-gam#(j)*(i-h#(j-1))
6000 if j=1 then gosub 9800
6100 if j=2 then gosub 9800
6200 if j=3 then gosub 9800
6300 if j=4 then gosub 10200
6400 if j=5 then gosub 9800
6500 if j=6 then gosub 9800
6600 if j=7 then gosub 10200
6700 if j=8 then gosub 9800
6800 if j=9 then gosub 9800
6900 if j=1 then z=2.4
7000 if j=2 then z=3.3
7100 if j>2 then z=4
7200 eh#(j)=e0#*(ph#(j)/p0#)^z : deh#=z*eh#(j)*dph#/ph#(j)
7300 n1#=(c1#*ph#(j)-c0#*eh#(j))/th#(j)
7400 dnp#=c1#/th#(j) : dne#=-c0#/th#(j) : dnt#=-n1#/th#(j)
7500 dn#=dnp#*dph#+dne#*deh#+dnt#*dth#
7600 wu#=sqr((re#+i)*(re#+i)*(n1#+1)*(n1#+1)-k#*k#)
7700 if wu#=0 then print "x"
7800 if wu#=0 then wu#=k#
7900 in#(2)=dh#*k#*(dn#-dn#*n1#+dn#*n1#*n1#)/wu#
8000 ref#=ref#+(in#(1)+in#(2))/2
8100 if i=100 then gosub 10500
8200 if i=1500 then gosub 10500
8300 if i=3000 then gosub 10500
8400 if i=5000 then gosub 10500
8500 if i=12000 then gosub 10500
8600 if i=50000 then gosub 10500
8700 next i
8800 gosub 11300
8900 print int(min#); " min ";sec#;" sec"
9000 next j
9100 lprint : lprint "hoehe = ";hi#
9200 lprint : lprint "hoehe = ";hi#;" m"
9300 lprint "luftbrechungsindex (n-1)= ";n1#
9400 gosub 11300
9500 lprint "refraktion = ";int(min#); " minuten ";sec#;" sekunden"
9600 print "refraktion = ";int(min#); " minuten ";sec#;" sekunden"
9700 end
9800 ph#(j)=ph#(j-1)*(th#(j)/th#(j-1))^(g#/r#/gam#(j))
9900 gg#=g#/r#/th#(j)+log(th#(j)/th#(j-1))*2*g#/r#/gam#(j)/(re#+i)
10000 dph#=-ph#(j)*gg# : dth#=-gam#(j)
10100 return
10200 ph#(j)=ph#(j-1)*exp(-g#*(i-h#(j-1))/r#/th#(j))
10300 dph#=ph#(j)*g#*(2*(i-h#(j-1))/(re#+i)-1)/r#/th#(j-1) : dth#=0
10400 return
10500 lprint : lprint "hoehe = ";i;" m"
10600 lprint "temperatur = ";th#(j)-273.15;" grad celsius"
10700 lprint "druck = ";int(100*ph#(j)+0.5)/100;" hpa"
10800 lprint "dampfdruck = ";int(1000*eh#(j)+0.5)/1000;" hpa"
10900 lprint "luftbrechungsindex (n-1)= ";n1#
11000 gosub 11300
11100 lprint "refraktion = ";int(min#); " minuten ";sec#;" sekunden"
11200 return
11300 min#=ref#*60/fak#
11400 if min#<0 then min#=-min#
11500 sec#=int(600*(min#-int(min#))+0.5)/10
11600 return

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