

# 数式でつくるかたち

Basicプログラムの実行例

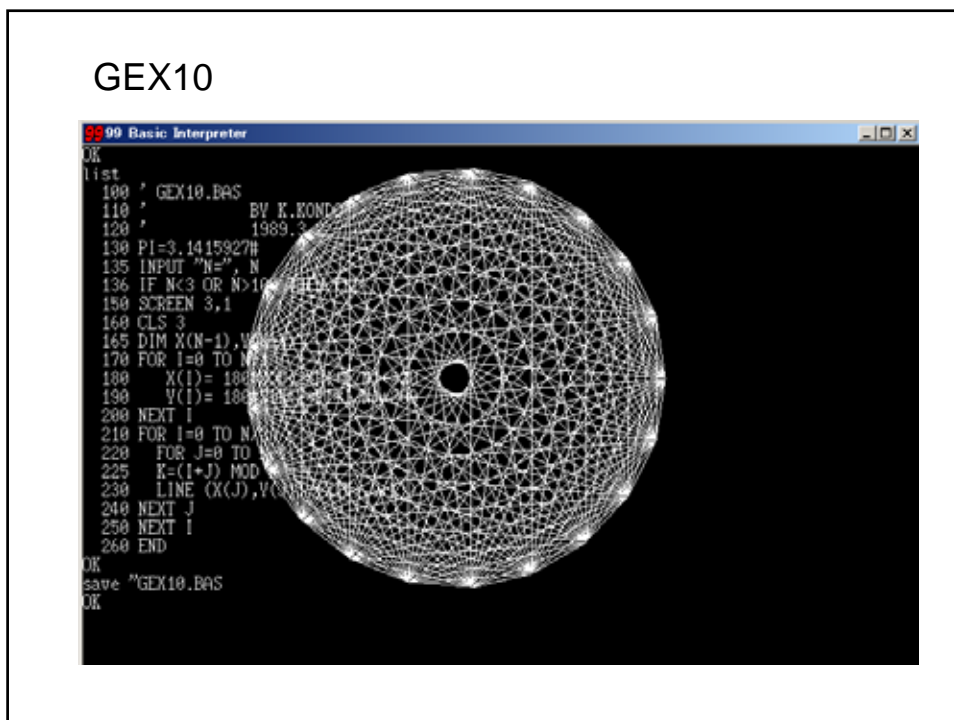
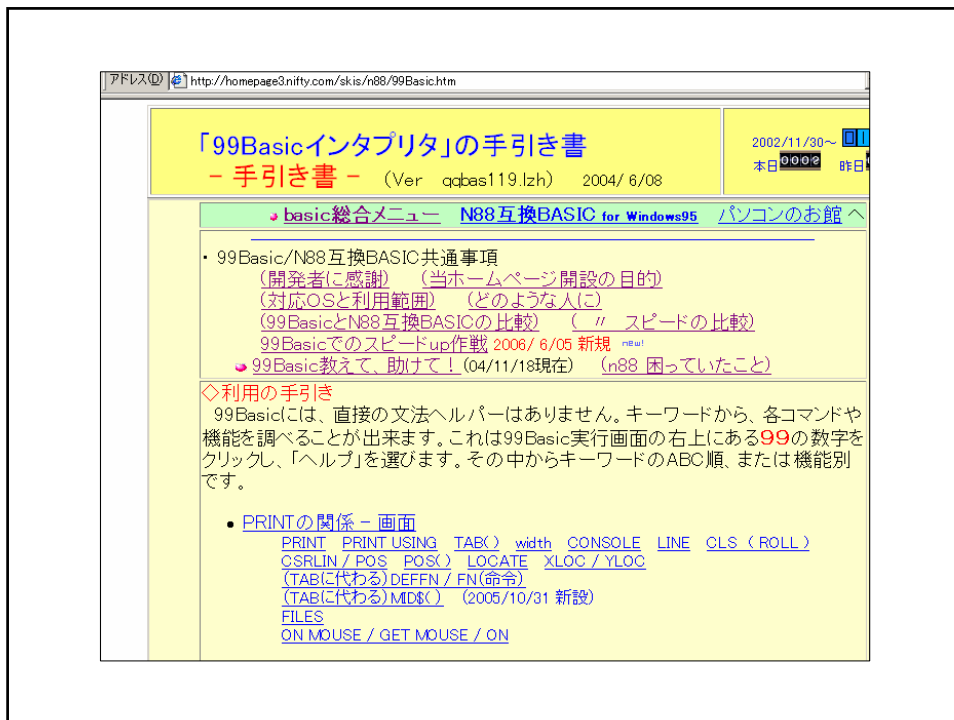
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## 「99Basicインタプリタ」の手引き書

- <http://homepage3.nifty.com/skis/n88/99Basic.htm>


XPのためのn88basicインタプリタをダウンロードして実行

オリジナルプログラムがすべて正しく動作しない場合もあるので、実行例は参考としてみる  
こと。



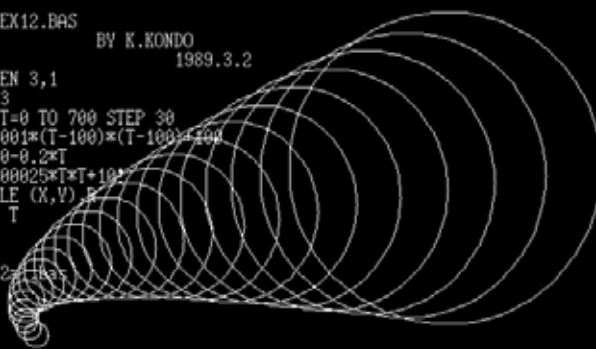
## GEX11

```
99 Basic Interpreter
OK
list
100 ' GEX11.bas
110 ' BY K.KONDO
120 ' 1989.3.2
130 SCREEN 3,1
140 CLS 3
150 DIM X(50),Y(50)
160 PAI=3.1415927#
170 INPUT "R=(R<100)",R
180 FOR N=3 TO 20
190 CLS 3
200 FOR T=0 TO N
210 X(T)=320-2*R*COS(2*PAI*T/N)
220 Y(T)=200-2*R*SIN(2*PAI*T/N)
230 NEXT T
240 FOR S=0 TO N-1
250 LINE (X(S),Y(S))-(X(S+1),Y(S+1))
260 NEXT S
270 FOR S=1 TO 2000:NEXT S
280 NEXT N
290 END
OK
```



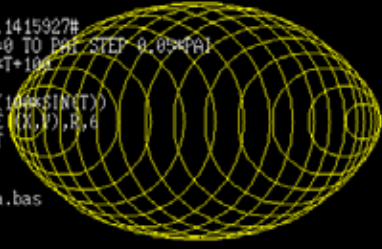
## GEX12

```
99 Basic Interpreter
OK
list
100 ' GEX12.BAS
110 ' BY K.KONDO
120 ' 1989.3.2
130 SCREEN 3,1
140 CLS 3
150 FOR T=0 TO 700 STEP 30
160 X=0.001*(T-100)*(T-100)+100
170 Y=300-0.2*T
180 R=0.0025*T+10
190 CIRCLE (X,Y) R
200 NEXT T
210 END
OK
save "Gex12.bas"
OK
```



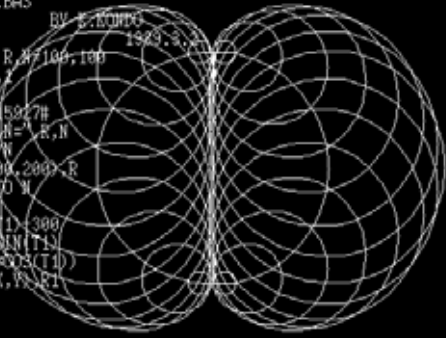
## GEX13

```
99 99 Basic Interpreter
OK
list
100 ' GEX13.BAS
110 '          BV K.KONDO
120 '          1989.3.2
130 SCREEN 3,1
140 CLS 3
145 PAI=3.1415927#
150 FOR T=0 TO PAI STEP 0.05*PAI
160 X=100*T+100
170 Y=200
180 R=ABS(100*SIN(T))
190 CIRCLE (X,Y),R,4
200 NEXT T
210 END
OK
save "Gex13a.bas
OK
```

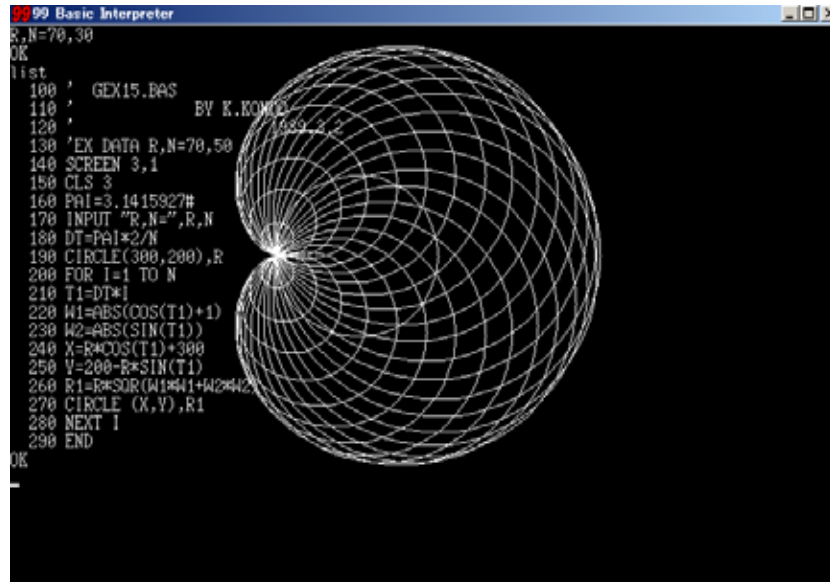


## GEX14

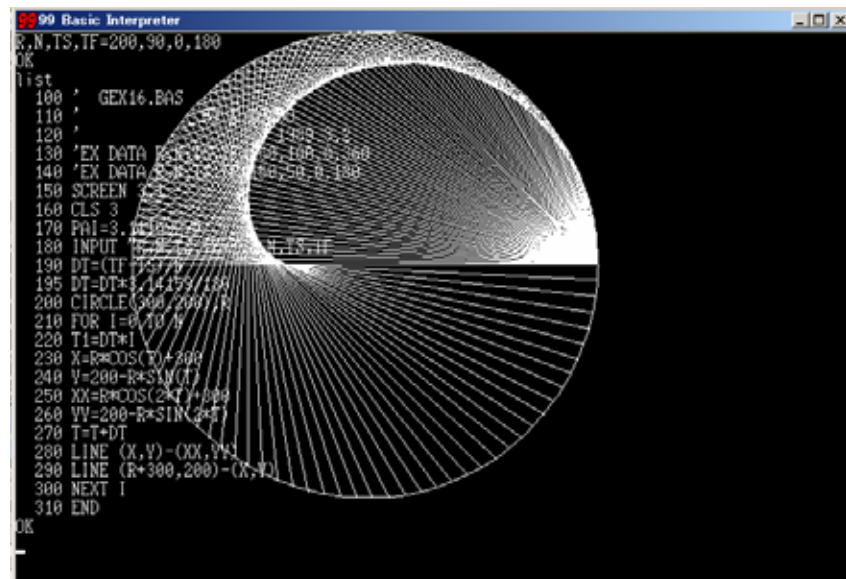
```
99 99 Basic Interpreter
R,N=100,30
OK
list
100 ' GEX14.BAS
110 '          BV K.KONDO
120 '          1989.3.2
125 'EX DATA R,N=100,100
130 SCREEN 3,1
140 CLS 3
150 PAI=3.1415927#
160 INPUT "R,N=";R,N
170 DT=PAI#N
180 CIRCLE(300,200),R
190 FOR I=1 TO N
200 T1=DT*I
210 X=R*COS(T1)+300
220 Y=200-R*SIN(T1)
230 R1=ABS(R*COS(T1))
240 CIRCLE (X,Y),R1
250 NEXT I
260 END
OK
```



## GEX15

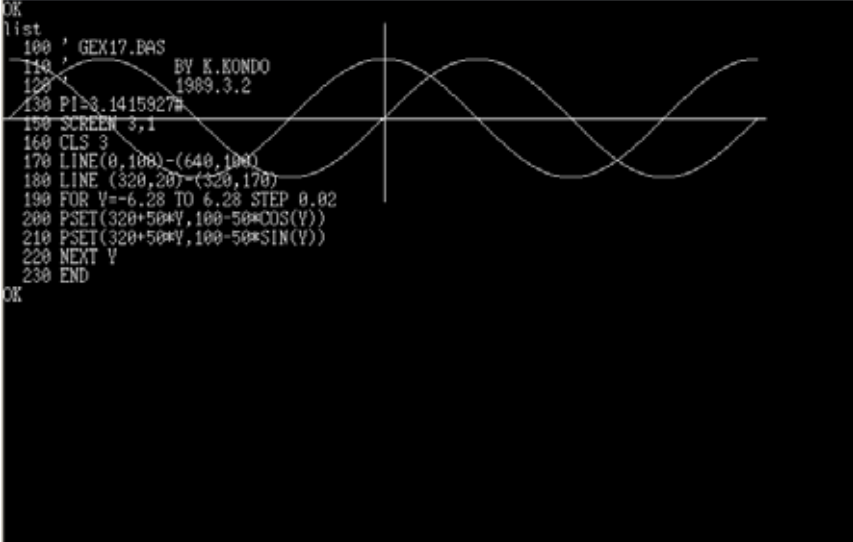


## GEX16



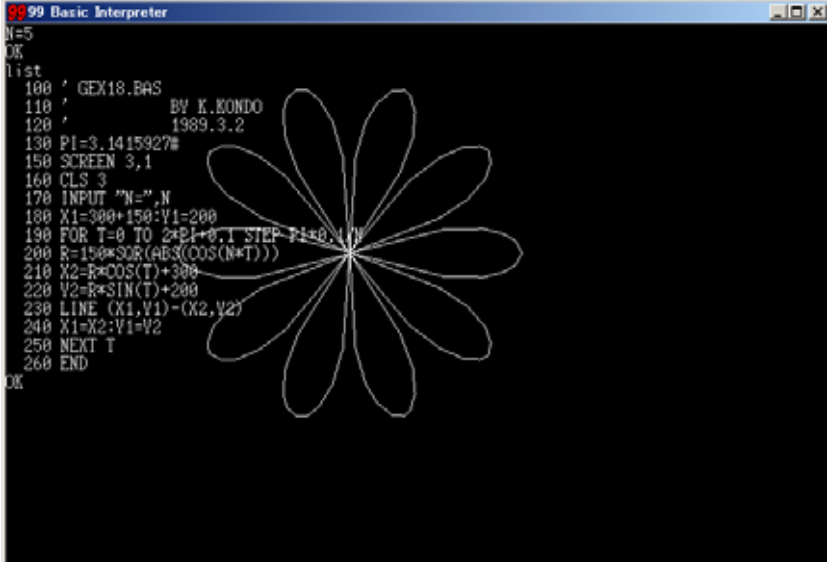
## GEX17

```
9999 Basic Interpreter
OK
list
100 ' GEX17.BAS
110 '          BY K.KONDO
120 '          1989.3.2
130 PI=3.1415927#
150 SCREEN 3,1
160 CLS 3
170 LINE(0,100)-(640,100)
180 LINE(320,20)-(320,170)
190 FOR V=-6.28 TO 6.28 STEP 0.02
200 PSET(320+50*V,100-50*COS(V))
210 PSET(320+50*V,100-50*SIN(V))
220 NEXT V
230 END
OK
```




## GEX18

```
9999 Basic Interpreter
N=5
OK
list
100 ' GEX18.BAS
110 '          BY K.KONDO
120 '          1989.3.2
130 PI=3.1415927#
150 SCREEN 3,1
160 CLS 3
170 INPUT "N=",N
180 X1=300+150:Y1=200
190 FOR T=0 TO 2*PI+0.1 STEP PI*2/N
200 R=150*SQR(ABS(COS(N*T)))
210 X2=R*COS(T)+300
220 V2=R*SIN(T)+200
230 LINE (X1,V1)-(X2,V2)
240 X1=X2:V1=V2
250 NEXT T
260 END
OK
```




## GEX19

```
9999 Basic Interpreter
N=5
OK
list
100 ' GEX19.BAS
110 ' BY K.KONDO
120 ' 1989.3.2
130 PI=3.1415927#
150 SCREEN 3,1
160 CLS 3
170 INPUT "N=";N
180 X1=300+150:Y1=200
190 FOR T=0 TO 2*PI+0.1 STEP PI*0.1/N
200 R=150*SQR(ABS(COS(N*T)))
210 X2=R*COS(T)+300
220 Y2=R*SIN(T)+200
230 LINE (X1,Y1)-(X2,Y2),4
240 X1=X2:Y1=Y2
250 NEXT T
260 FOR T=0 TO 2*PI STEP PI/N
280 X2=0.5*R*CO(T)+300
290 Y2=0.5*SIN(T)+200
300 PRINT(X2,Y2),4,4
310 NEXT T
320 END
OK
```



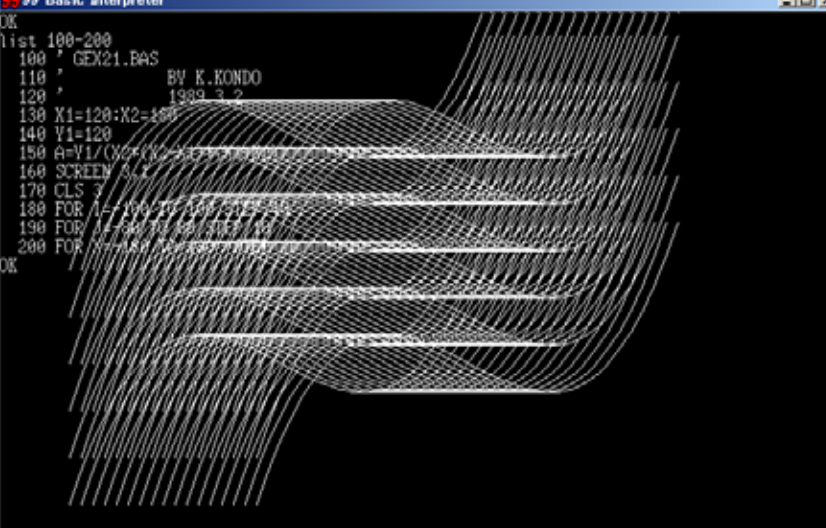
## GEX20

```
9999 Basic Interpreter
OK
list
10 ' GEX20.bas
20 ' BY K.KONDO
30 ' 1989.3.2
50 SCREEN 3,1
60 CLS 3
70 FOR N=220 TO 320 STEP 5
80 R=350-2*N
90 H=X*H/L
100 L=X*L
110 LINE(N,X)-(L,L)
120 LINE(H,X)-(X,H)
130 LINE-(H,L)
140 LINE-(L,H)
150 LINE-(H,X)
160 NEXT X
170 END
OK
```



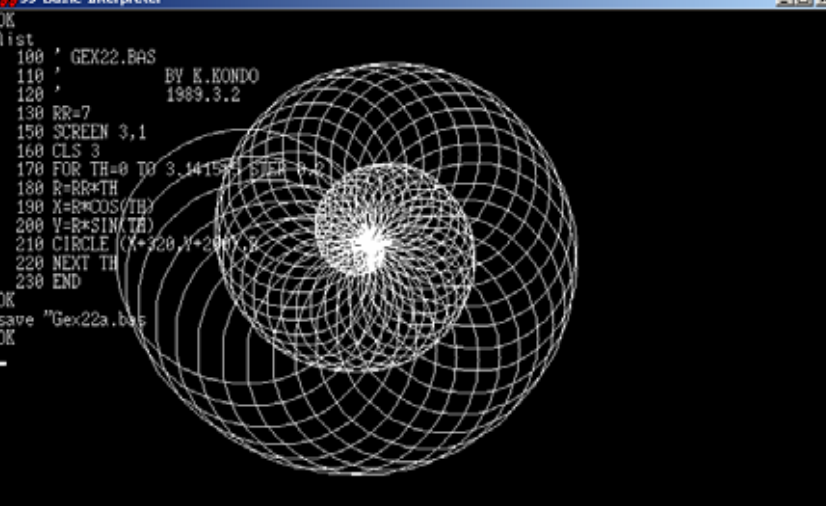
## GEX21

```
99 Basic Interpreter
OK
list 100-200
100 ' GEX21.BAS
110 '      BY K.KONDO
120 '      1989.3.2
130 X1=120:X2=180
140 Y1=120
150 A=PI/(X2-X1)
160 SCREEN 3,1
170 CLS 3
180 FOR I=100 TO 190 STEP 10
190 FOR J=50 TO 90 STEP 10
200 FOR K=100 TO 190 STEP 10
OK
```



## GEX22

```
99 Basic Interpreter
OK
list
100 ' GEX22.BAS
110 '      BY K.KONDO
120 '      1989.3.2
130 RR=7
150 SCREEN 3,1
160 CLS 3
170 FOR TH=0 TO 3.14159 STEP .1
180 R=RR*TH
190 X=R*COS(TH)
200 Y=R*SIN(TH)
210 CIRCLE (X+320,Y+240),R
220 NEXT TH
230 END
OK
save "Gex22a.bas"
OK
```





## GEX23

```
99 Basic Interpreter
OK
list
100 ' GEX23.BAS
110 '      BY K.KONDO
120 '      1989.3.2
130 LINE (100,200)-(550,200)
150 SCREEN 3,1
160 CLS 3
170 LINE (100,200)-(550,200)
180 LINE(320,0)-(320,400)
190 FOR X1=120 TO 320 STEP 10
200 V1=(X1-120)-(X1-120)*2
210 V2=100-V1
220 V3=100+V1
230 LINE (X1,200)-(320,V2*2)
240 '   LINE (X1,200)-(320,V3*2)
250 NEXT X1
260 END
OK
```