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10 REM *****
20 REM *** DIGIT ***** ANT ***
30 REM *****
40 REM * BY BRENDAN PINER (JAN 1986) *
50 REM *****
60 GOSUB 2180
70 REM *** Set up screen ***
80 R=0:W=0
90 MODE 1:BORDER 5:INK 0,21:INK 1,0:INK
  K 2,5:INK 3,6:PAPER #0,0
100 WINDOW #1,1,30,22,25:PAPER #1,1:CLS
  #1:WINDOW #2,31,40,22,25:PAPER #2,3
  :CLS#2
110 PEN #1,2:LOCATE #1,8,2:PRINT #1,"Pr
  ess [SPACE] "
120 PEN 1:PRINT STRING$(40,207):PRINT C
  HR$(24):LOCATE 16,1:PRINT"DIGIT ANT.
  ":PRINT CHR$(24)
130 PEN 2:LOCATE 4,3:PRINT CHR$(222);:L
  OCATE 8,3:PRINT CHR$(223)
140 LOCATE 1,4:PRINT CHR$(222);:PRINT S
  TRING$(3,207);:LOCATE 8,4:PRINT CHR
  $(207)
150 LOCATE 1,5:PRINT CHR$(207):LOCATE 8
  ,5:PRINT CHR$(207)
160 LOCATE 1,6:PRINT CHR$(221):LOCATE 2
  ,6:PRINT STRING$(6,207):LOCATE 8,6:
  PRINT CHR$(220)
170 PEN 3:PRINT CHR$(22)+CHR$(1):LOCATE
  8,3:PRINT CHR$(221):PRINT CHR$(22)
  +CHR$(0)
180 LOCATE 9,3:PRINT STRING$(29,207)
190 LOCATE 1,3:PRINT STRING$(3,207):PRI
  NT CHR$(22)+CHR$(1):LOCATE 4,3:PRIN
  T CHR$(220):PRINT CHR$(22)+CHR$(0)
200 PRINT CHR$(22)+CHR$(1):LOCATE 1,4:P
  RINT CHR$(220):PRINT CHR$(22)+CHR$(
  0)
210 PRINT CHR$(22)+CHR$(1):LOCATE 1,6:P
  RINT CHR$(223):LOCATE 8,6:PRINT CHR
  $(222):PRINT CHR$(22)+CHR$(0)
220 LOCATE 12,5:PRINT STRING$(29,207)
230 LOCATE 1,7:PRINT STRING$(37,207)
240 LOCATE 4,9:PRINT STRING$(37,207)
250 LOCATE 1,11:PRINT STRING$(37,207)
260 LOCATE 4,13:PRINT STRING$(37,207)
270 LOCATE 1,15:PRINT STRING$(37,207)
280 LOCATE 4,17:PRINT STRING$(37,207)
290 LOCATE 1,19:PRINT STRING$(37,207)
300 LOCATE 1,21:PEN 1:PRINT STRING$(40,
  207)
310 REM *** MATHEMATICAL SIGNS ***
320 PEN 1:PRINT CHR$(24):LOCATE 12,20:P
  RINT CHR$(43):PRINT CHR$(24)
330 PRINT CHR$(24):LOCATE 35,20:PRINT C
  HR$(120):LOCATE 32,18:PRINT CHR$(45
  ):LOCATE 10,18:PRINT CHR$(43):LOCAT
  E 14,16:PRINT CHR$(120):LOCATE 35,1
  6:PRINT CHR$(45):LOCATE 30,14:PRINT
  CHR$(43)

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340 LOCATE 1,14:PRINT CHR$(45):LOCATE 2
  0,12:PRINT CHR$(120):LOCATE 32,10:P
  RINT CHR$(45):LOCATE 6,10:PRINT CHR
  $(43):LOCATE 20,8:PRINT CHR$(120):L
  OCATE 36,6:PRINT CHR$(43)
350 LOCATE 9,6:PRINT CHR$(172):LOCATE 2
  5,4:PRINT CHR$(172):LOCATE 16,2:PRI
  NT CHR$(120):PRINT CHR$(24)
360 h$=INKEY$:IF h$<>" " THEN 360
370 CLS#1
380 PEN #2,1:LOCATE #2,2,1:PRINT #2,"Ri
  ght";:PEN #2,0:PRINT#2,R
390 PEN #2,1:LOCATE #2,2,3:PRINT #2,"Wr
  ong";:PEN #2,0:PRINT#2,W
400 REM *** Movement of Ant ***
410 SYMBOL 254,36,72,120,244,120,48,0,0
  :SYMBOL 255,0,0,126,255,255,126,36,
  66:SYMBOL 253,72,36,30,47,30,12,0,0
420 ant$=CHR$(255)+CHR$(255)+CHR$(254)
430 y=20
440 FOR x=1 TO 37:LOCATE x,y:PEN 1:PRIN
  T " ";ant$
450 SOUND 1,230,1,7,0,0,1
460 FOR t=1 TO 150:NEXT
470 GOSUB 1680
480 NEXT
490 ant$=CHR$(253)+CHR$(255)+CHR$(255)
500 x=38:FOR y=19 TO 18 STEP-1:FOR k=20
  TO 19 STEP-1:LOCATE x,y:PEN 1:PRIN
  T ant$:LOCATE x,k:PRINT" ";
510 SOUND 1,230,1,7,0,0,1
520 FOR t=1 TO 50:NEXT
530 GOSUB 1680
540 NEXT:NEXT
550 y=18:FOR x=37 TO 1 STEP-1:LOCATE x,
  y:PRINT ant$;" "
560 SOUND 1,230,1,7,0,0,1
570 FOR t=1 TO 150:NEXT
580 GOSUB 1680
590 NEXT
600 x=1:FOR y=17 TO 16 STEP-1:FOR k=18
  TO 17 STEP-1:LOCATE x,y:PRINT ant$:
  LOCATE x,k:PRINT" ";
610 ant$=CHR$(255)+CHR$(255)+CHR$(254)
620 SOUND 1,230,1,7,0,0,1:FOR t=1 TO 50
  :NEXT
630 GOSUB 1680
640 NEXT:NEXT
650 y=16:FOR x=1 TO 37:LOCATE x,y:PRINT
  " ";ant$
660 SOUND 1,230,1,7,0,0,1
670 FOR t=1 TO 150:NEXT
680 GOSUB 1680
690 NEXT
700 ant$=CHR$(253)+CHR$(255)+CHR$(255)
710 x=38:FOR y=15 TO 14 STEP-1:FOR k=16
  TO 15 STEP -1:LOCATE x,y:PRINT ant
  $:LOCATE x,k:PRINT" ";
720 SOUND 1,230,1,7,0,0,1:FOR t=1 TO 50
  :NEXT
730 GOSUB 1680
740 NEXT:NEXT
750 y=14:FOR x=37 TO 1 STEP-1:LOCATE x,
  y:PRINT ant$;" "
760 FOR t=1 TO 150:NEXT

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770 SOUND 1,230,1,7,0,0,1
780 GOSUB 1680
790 NEXT
800 ant$=CHR$(255)+CHR$(255)+CHR$(254)
810 x=1:FOR y=13 TO 12 STEP-1:FOR k=14
    TO 13 STEP-1:LOCATE x,y:PRINT ant$:
    LOCATE x,k:PRINT" ";
820 SOUND 1,230,1,7,0,0,1:FOR t=1 TO 50
    :NEXT
830 GOSUB 1680
840 NEXT:NEXT
850 y=12:FOR x=1 TO 37:LOCATE x,y:PRINT
    " ";ant$
860 SOUND 1,230,1,7,0,0,1:FOR t=1 TO 15
    0:NEXT
870 GOSUB 1680
880 NEXT
890 ant$=CHR$(253)+CHR$(255)+CHR$(255)
900 x=38:FOR y=11 TO 10 STEP-1:FOR k=12
    TO 11 STEP-1:LOCATE x,y:PRINT ant$:
    LOCATE x,k:PRINT" ";
910 SOUND 1,230,1,7,0,0,1:FOR t=1 TO 50
    :NEXT
920 GOSUB 1680
930 NEXT:NEXT
940 y=10:FOR x=37 TO 1 STEP-1:LOCATE x,
    y:PRINT ant$;" "
950 SOUND 1,230,1,7,0,0,1:FOR t=1 TO 15
    0:NEXT
960 GOSUB 1680
970 NEXT
980 ant$=CHR$(255)+CHR$(255)+CHR$(254)

990 x=1:FOR y=9 TO 8 STEP -1:FOR k=10 T
    O 9 STEP-1:LOCATE x,y:PRINT ant$:LO
    CATE x,k:PRINT" ";
1000 SOUND 1,230,1,7,0,0,1:FOR t=1 TO 50
    :NEXT
1010 GOSUB 1680
1020 NEXT:NEXT
1030 y=8:FOR x=1 TO 37:LOCATE x,y:PRINT
    " ";ant$
1040 SOUND 1,230,1,7,0,0,1:FOR t=1 TO 15
    0:NEXT
1050 GOSUB 1680
1060 NEXT
1070 ant$=CHR$(253)+CHR$(255)+CHR$(255)
1080 x=38:FOR y=7 TO 6 STEP-1:FOR k=8 TO
    7 STEP-1:LOCATE x,y:PRINT ant$:LOC
    ATE x,k:PRINT" ";
1090 SOUND 1,230,1,7,0,0,1:FOR t=1 TO 50
    :NEXT
1100 GOSUB 1680
1110 NEXT:NEXT
1120 y=6:FOR x=37 TO 9 STEP-1:LOCATE x,y
    :PRINT ant$;" "
1130 SOUND 1,230,1,7,0,0,1:FOR t=1 TO 15
    0:NEXT
1140 GOSUB 1680
1150 NEXT
1160 ant$=CHR$(255)+CHR$(255)+CHR$(254)
1170 x=9:FOR y=5 TO 4 STEP-1:FOR k=6 TO
    5 STEP-1:LOCATE x,y:PRINT ant$:LOCA
    TE x,k:PRINT" ";
1180 SOUND 1,230,1,7,0,0,1:FOR t=1 TO 50
    :NEXT
1190 GOSUB 1680
1200 NEXT:NEXT
1210 y=4:FOR x=9 TO 37:LOCATE x,y:PRINT
    " ";ant$
1220 SOUND 1,230,1,7,0,0,1:FOR t=1 TO 15
    0:NEXT
1230 GOSUB 1680
1240 NEXT
1250 ant$=CHR$(253)+CHR$(255)+CHR$(255)
1260 x=38:FOR y=3 TO 2 STEP-1:FOR k=4 TO
    3 STEP-1:LOCATE x,y:PRINT ant$:LOC
    ATE x,k:PRINT" ";
1270 SOUND 1,230,1,7,0,0,1:FOR t=1 TO 50
    :NEXT
1280 GOSUB 1680
1290 NEXT:NEXT
1300 y=2:FOR x=37 TO 5 STEP-1:LOCATE x,y
    :PRINT ant$;" "
1310 SOUND 1,230,1,7,0,0,1:FOR t=1 TO 12
    0:NEXT
1320 GOSUB 1680
1330 NEXT
1340 x=5:FOR y=3 TO 5:k=y-1:LOCATE x,y:P
    RINT ant$:LOCATE x,k:PRINT" ";
1350 SOUND 1,230,1,7,0,0,1:FOR t=1 TO 50
    :NEXT
1360 GOSUB 1680
1370 NEXT
1380 y=5:FOR x=4 TO 2 STEP -1:LOCATE x,y
    :PRINT ant$;" "
1390 SOUND 1,230,1,7,0,0,1:FOR t=1 TO 50
    :NEXT
1400 GOSUB 1680
1410 NEXT
1420 FOR m=150 TO 50 STEP -1
1430 SOUND 1,m,3,15,0,0,0
1440 NEXT
1450 FOR m=50 TO 150
1460 SOUND 1,m,3,15,0,0,0
1470 NEXT
1480 ENV 1,100,122,1
1490 SOUND 1,239,0,15,1,0,0
1500 REM *** Play again ? ***
1510 BORDER 0:INK 0,0:PAPER 0:INK 1,26:P
    EN 1:CLS
1520 LOCATE 1,1:PRINT"You got"r"out of 1
    6 right"
1530 p=r/16*100
1540 LOCATE 1,2:PRINT "Which is";ROUND (
    p,0)"%"
1550 IF p<50 THEN 1600
1560 IF p<70 THEN 1610
1570 IF p<93 THEN 1620
1580 IF p<100 THEN 1630
1590 IF p=100 THEN 1640
1600 LOCATE 1,3:PRINT"You are slack, bet
    ter practise more on your arithme
    tic.":GOTO 1650
1610 LOCATE 1,3:PRINT"Could do better!":
    GOTO 1650
1620 LOCATE 1,3:PRINT" Well Done!!!":GOT
    O 1650
1630 LOCATE 1,3:PRINT"Well done!, all mo
    st a perfect score!":GOTO 1650

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1640 LOCATE 1,3:PRINT"That's a perfect s
core!"
1650 LOCATE 1,5:INPUT"Would you like to
play again ";a$
1660 IF a$="y" OR a$="Y" THEN 80 ELSE IF
a$="n" OR a$="N" THEN 1670 ELSE 1
650
1670 CLS:PRINT"bye-bye":END
1680 REM *** WHICH EQUATION ? ***
1690 IF x=8 AND y=20 THEN GOSUB 1860
1700 IF x=31 AND y=20 THEN GOSUB 2020
1710 IF x=33 AND y=18 THEN GOSUB 1940
1720 IF x=11 AND y=18 THEN GOSUB 1860
1730 IF x=10 AND y=16 THEN GOSUB 2020
1740 IF x=31 AND y=16 THEN GOSUB 1940
1750 IF x=31 AND y=14 THEN GOSUB 1860
1760 IF x=2 AND y=14 THEN GOSUB 1940
1770 IF x=16 AND y=12 THEN GOSUB 2020
1780 IF x=33 AND y=10 THEN GOSUB 1940
1790 IF x=7 AND y=10 THEN GOSUB 1860
1800 IF x=16 AND y=8 THEN GOSUB 2020
1810 IF x=37 AND y=6 THEN GOSUB 1860
1820 IF x=10 AND y=6 THEN GOSUB 2100
1830 IF x=21 AND y=4 THEN GOSUB 2100
1840 IF x=17 AND y=2 THEN GOSUB 2020
1850 RETURN
1860 REM *** ADDITION EQUATION ***
1870 CLS#1:RANDOMIZE TIME
1880 G=INT(RND*100)+1:H=INT(RND*100)+1
1890 LOCATE #1,2,2:PEN#1,2:PRINT #1,G"+"
H
1900 LOCATE #1,2,4:INPUT#1,"ANSWER";A
1910 IF A<>G+H THEN SOUND 1,4000,50,7:LO
CATE #1,12,3:PRINT#1,"WRONG!":FOR T
=1 TO 1000:NEXT:CLS#1:LOCATE #1,6,2
:PRINT#1,"THE ANSWER IS";G+H:W=W+1:
LOCATE #2,7,3:PEN #2,0:PRINT #2,W
1920 IF A=G+H THEN SOUND 1,60,40:LOCATE
#1,13,3:PRINT#1,"CORRECT!":FOR T=1
TO 1000:NEXT::R=R+1:LOCATE #2,7,1:P
EN #2,0:PRINT #2,R
1930 FOR T=1 TO 2000:NEXT:CLS#1:RETURN
1940 REM *** SUBTRACTION EQUATION ***
1950 CLS#1:RANDOMIZE TIME
1960 G=INT(RND*100)+1:H=INT(RND*100)+1
1970 LOCATE #1,2,2:PEN#1,2:PRINT #1,G"-
H
1980 LOCATE #1,2,4:INPUT#1,"ANSWER";A
1990 IF A<>G-H THEN SOUND 1,4000,50,7:LO
CATE #1,12,3:PRINT#1,"WRONG!":FOR T
=1 TO 1000:NEXT:CLS#1:LOCATE #1,6,2
:PRINT#1,"THE ANSWER IS ";G-H:W=W+1
:LOCATE #2,7,3:PEN #2,0:PRINT #2,W
2000 IF A=G-H THEN SOUND 1,60,40:LOCATE
#1,13,3:PRINT#1,"CORRECT!":FOR T=1
TO 1000:NEXT::R=R+1:LOCATE #2,7,1:P
EN #2,0:PRINT #2,R
2010 FOR T=1 TO 2000:NEXT:CLS#1:RETURN
2020 REM *** TIMES EQUATION ***
2030 CLS#1:RANDOMIZE TIME
2040 G=INT(RND*12)+1:H=INT(RND*12)+1
2050 LOCATE #1,2,2:PEN#1,2:PRINT #1,G"x"
H
2060 LOCATE #1,2,4:INPUT#1,"ANSWER";A
2070 IF A<>G*H THEN SOUND 1,4000,50,7:LO

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CATE #1,12,3:PRINT#1,"WRONG!":FOR T
=1 TO 1000:NEXT:CLS#1:LOCATE #1,6,2
:PRINT#1,"THE ANSWER IS";G*H:W=W+1:
LOCATE #2,7,3:PEN #2,0:PRINT #2,W
2080 IF A=G*H THEN SOUND 1,60,40:LOCATE
#1,13,3:PRINT#1,"CORRECT!":FOR T=1
TO 1000:NEXT::R=R+1:LOCATE #2,7,1:P
EN #2,0:PRINT #2,R
2090 FOR T=1 TO 2000:NEXT:CLS#1:RETURN
2100 REM *** DIVISION EQUATION ***
2110 CLS#1:RANDOMIZE TIME
2120 G=INT(RND*100)+1:H=INT(RND*9)+1
2130 LOCATE #1,2,2:PEN#1,2:PRINT #1,G CH
R$(172) H
2140 LOCATE #1,2,4:INPUT#1,"ANSWER";A
2150 IF A<>ROUND(G/H,1) THEN SOUND 1,400
0,50,7:LOCATE #1,12,3:PRINT#1,"WRON
G!":FOR T=1 TO 1000:NEXT:CLS#1:LOCA
TE #1,6,2:PRINT#1,"THE ANSWER IS";R
OUND(G/H,1):W=W+1:LOCATE #2,7,3:PEN
#2,0:PRINT #2,W
2160 IF A=ROUND(G/H,1) THEN SOUND 1,60,4
0:LOCATE #1,13,3:PRINT#1,"CORRECT!"
:FOR T=1 TO 1000:NEXT::R=R+1:LOCATE
#2,7,1:PEN #2,0:PRINT #2,R
2170 FOR T=1 TO 2000:NEXT:CLS#1:RETURN
2180 REM *** Title ***
2190 MODE 1:BORDER 12:INK 0,12:PAPER 0:I
NK 1,12:INK 2,0:INK 3,12:CLS
2200 PEN 2:LOCATE 15,25:PRINT" Please Wa
it!"
2210 FOR a=1 TO 360 STEP 2:PLOT 320,200,
2:DEG:DRAW 320+40*SIN(a),200+30*COS
(a),2:NEXT
2220 FOR a=1 TO 360 STEP 2:PLOT 390,200,
2:DEG:DRAW 390+40*SIN(a),200+30*COS
(a),2:NEXT
2230 FOR a=1 TO 360 STEP 5:PLOT 260,230:
DEG:PLOT 260+30*SIN(a),230+30*COS(a
),2:NEXT:PLOT 260,230,0
2240 PLOT 315,170,2:DRAW 305,140:DRAW 29
0,140:PLOT 325,170,2:DRAW 335,140:D
RAW 345,140
2250 PLOT 385,170,2:DRAW 375,140:DRAW 36
5,140:PLOT 395,170,2:DRAW 405,140:D
RAW 415,140
2260 PLOT 255,220,2:DRAW 238,215:PLOT 25
0,240:DRAW 248,240:DRAW 248,238:DRA
W 250,238:DRAW 250,240
2270 PLOT 255,257,2:DRAW 245,297:FOR a=1
TO 360 STEP 10:DEG:PLOT 245,297:DR
AW 245+5*SIN(a),297+5*COS(a),2:NEXT
2280 PLOT 265,257,2:DRAW 275,297:FOR a=1
TO 360 STEP 10:DEG:PLOT 275,297:DR
AW 275+5*SIN(a),297+5*COS(a),2:NEXT
2290 PEN 3:LOCATE 1,25:PRINT" Digit Ant
";
2300 FOR x%=0 TO 200
2310 FOR y%=0 TO 16 STEP 2
2320 IF TEST(x%,y%) THEN PLOT 11+x%*3,34
8+y%*3,1:PLOT 11+x%*3,350+y%*3,1:PL
OT 11+x%*3,352+y%*3,1:PLOT 11+x%*3,
354+y%*3,3
2330 NEXT:NEXT

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2340 LOCATE 1,25:PEN 3:PRINT " Brendan P
      iner":PEN 3
2350 FOR x%=0 TO 230
2360 FOR y%=0 TO 16 STEP 2
2370 IF TEST (x%,y%) THEN PLOT x%*2.5+15
      ,52+y%*3,3:PLOT x%*2.5+15,54+y%*3,3
      :PLOT x%*2.5+15,56+y%*3,3:PLOT x%*2
      .5+15,58+y%*3,1
2380 NEXT:NEXT
2390 LOCATE 1,25:PRINT SPC(30):LOCATE 15
      ,25:PRINT SPC(15)
2400 INK 1,25:INK 3,26:LOCATE 11,24:PEN
      3:PRINT "Press [SPACE] to play"
2410 a$=INKEY$:IF a$<>" " THEN 2410
2420 REM ** Instructions **
2430 INK 1,25
2440 FOR x=0 TO 320 STEP 2
2450 MOVE x,0:DRAW x,400,1
2460 MOVE 640-x,0:DRAW 640-x,400,1
2470 NEXT
2480 INK 0,1:PAPER 0
2490 FOR x=320 TO 0 STEP-2
2500 MOVE x,0:DRAW x,400,0
2510 MOVE 640-x,0:DRAW 640-x,400,0
2520 NEXT
2530 BORDER 0:MODE 1:INK 1,24:INK 2,26:P
      EN 2
2540 LOCATE 12,2:PRINT"** INSTRUCTIONS *
      *":PRINT:PRINT:PEN 1
2550 PRINT" In this game you have to hel
      p the ANT get back to his hole in
      the ground."

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2560 PRINT:PRINT
2570 PRINT" What you have to do is,as th
      e ANT moves along he comes to mathe
      matical signs, but before he can
      eat the sign and move along,you mus
      t work out a maths problem accordin
      g to the sign."
2580 PRINT:PRINT" When working out Div
      ision round of to one decimal place
      ."
2590 PRINT" How many problems you get ri
      ght is kept and how many problems y
      ou get wrong is kept."
2600 PRINT
2610 PRINT" The best score is my sco
      re.Which is 100% or 16/16. Mind yo
      u I used a calculator. Good L
      uck!"
2620 PRINT:PRINT" Press Space to
      Start."
2630 s$=INKEY$:IF s$<>" " THEN 2630
2640 INK 3,9
2650 FOR x=0 TO 200 STEP 2
2660 MOVE 0,x:DRAW 640,x,3
2670 MOVE 0,400-x:DRAW 640,400-x,3
2680 NEXT
2690 INK 0,21:PAPER 0
2700 FOR x=200 TO 0 STEP-2
2710 MOVE 0,x:DRAW 640,x,0
2720 MOVE 0,400-x:DRAW 640,400-x,0
2730 NEXT
2740 RETURN

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