Puzzle answers

Page 15
Name and message program

```
10 PRINT "WHAT IS YOUR NAME"
20 INPUT N$
30 PRINT "HELLO"
40 PRINT N$
50 PRINT "HOW ARE YOU"
```

Page 17
1. Sums program

```
10 LET A=9
20 LET B=7
30 PRINT A*B
40 PRINT A/B
50 LET A=A+1
60 LET B=B+3
70 PRINT A*B,A/B
80 END
```

Comma to leave space

2. Tables program

Spaces

```
30 PRINT A;" TIMES ";B;" IS ";A*B
40 PRINT A;" DIVIDED BY ";B;" IS ";A/B
```

3. Name and message alterations

```
10 PRINT "WHAT IS YOUR NAME"
20 INPUT N$
30 PRINT " HELLO ";N$;" HOW
   ARE YOU
```

Page 18
Sums program

```
10 PRINT "WHAT IS 7 TIMES 7"
20 INPUT A
30 IF A=49 THEN PRINT "CORRECT"
40 IF A<>49 THEN PRINT "NO";7*7
```

You need a semi-colon after the quotes, like this.

Page 19
Age guessing game

Replace line 30 and add a new line 35:

```
30 IF G<14 THEN PRINT "OLDER
   THAN THAT"
35 IF G>14 THEN PRINT "YOUNGER
   THAN THAT"
```

Page 23
Plotting counter

```
 5 LET C=0
45 LET C=C+1
50 IF C<6 THEN GOTO 10
```

Plotting your initial

Here is an example of a program to plot the letter L.

```
10 LET X=15
20 LET Y=30
30 PLOT (X,Y)
40 LET Y=Y-1
50 IF Y>5 THEN GOTO 30
60 LET X=X+1
70 PLOT (X,Y)
80 IF X<45 THEN GOTO 60
90 END
```

Page 24
Random numbers

The formula for a random number between 10 and 20 would be INT(RND(1)*11+9). On computers which need only a number in brackets after RND, it would be RND(11)+9. There are eleven possible numbers between 10 and 20 so you need to pick random numbers between 1 and 11, then add 9.

Page 25
Space attack

These are the lines you need to add to count the number of hits:

```
15 LET S=0
75 IF X=A*B THEN LET S=S+1
95 PRINT "YOU HIT "
   ;S;" OUT OF 6 ALIENS"
```

Page 27
1. Eight times table

```
10 PRINT "THE EIGHT TIMES TABLE"
20 FOR J=1 TO 12
30 PRINT J;"x8 = ";J*8
40 NEXT J
```

Page 27
2. N times table

```
10 INPUT "TYPE IN A NUMBER";N
20 PRINT "HERE IS THE "
   ;N;" TIMES TABLE"
30 FOR I=1 TO 12
40 PRINT I;" TIMES ";N;" IS ";I*N
50 NEXT I
60 INPUT "ANOTHER NUMBER (Y or N)"
   ;M$
70 IF M$="Y" THEN GOTO 10
```

For the ZX81 you need separate PRINT and INPUT lines.

Page 32
Computer book string puzzle

LEFT$(A$,8) is "COMPUTER"
RIGHT$(A$,10) is "PUTER BOOK"
MID$(A$,5,8) is "UTER BOO"

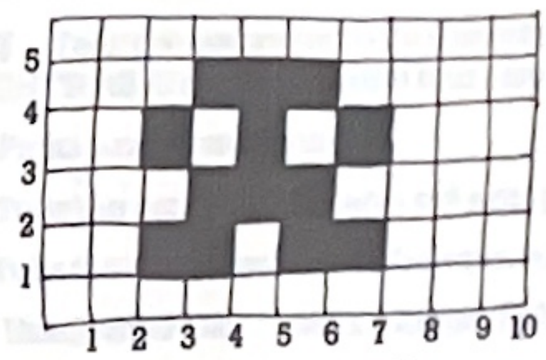
Page 34
Number trick program

```
10 PRINT "THINK OF A NUMBER"
20 PRINT "DOUBLE IT, ADD 4"
30 PRINT "DIVIDE BY 2, ADD 7"
40 PRINT "MULTIPLY BY 8,
   SUBTRACT 12"
50 PRINT "DIVIDE BY 4 AND TAKE
   AWAY 11"
60 PRINT "TELL ME THE RESULT"
70 INPUT N
80 PRINT "THE NUMBER YOU FIRST
   THOUGHT OF IS";(N-4)/2
```

You need the brackets to make the computer do the sum in the order you want.

Space invaders repeat program

1



Draw a simple space invaders shape on squared paper.

2

4,5; 5,5; 6,5

3,4; 5,4; 7,4

4,3; 5,3; 6,3

3,2; 4,2; 6,2; 7,2

Then work out the co-ordinates of all the squares which make up the space invader.

3

```
5 CLS
50 INPUT "HOW MANY POINTS ACROSS THE SCREEN";W
60 INPUT "HOW MANY UP";V
65 CLS
70 FOR I=0 TO V STEP V/6
80 FOR J=0 TO W STEP W/6
130 NEXT J
140 NEXT I
150 END
```

Change the 6 to a higher figure to increase the number of times the invader shape repeats on the screen. (If you get a bug you have made the number too big.)

Put your plot lines here, e.g.
90 PLOT (J+3, I+2)
92 PLOT (J+4, I+2)
for the two bottom left-hand squares of the space invader shown above. You need a program line for each square.

Copy out the pattern repeat program, excluding lines 10 to 40 and 90 to 140, as shown above. (These lines produce the random pattern for the program so you do not need them.)
Now you need to put your own plot lines into the program between lines 80 and 140 (you can renumber the lines in the program). For each pair of co-ordinates you need to add J to the first figure and I to the second figure, to make the space invader repeat.