Forgotten methods from the days before calculators

Arithmetic skills are an essential requirement for all pupils. Before these skills can be taught the teacher must be aware of the common errors. This section examines these common errors and suggests ways to eliminate them.

Common error 1: Straight columns
Failure to keep numbers in straight columns.

```
  7 6 38
  2 42 6
+ 31742
```
This leads to numerous errors.

Solution
Pupils should place numbers in neat columns and space the numbers.

```
    7  6  3  8
    2  4  2  6
+ 3  1  7  4  2
```

Common error 2: Failure to 'carry' numbers

```
    3  4  7
+   2  1  6
    5  5 ①3
```
Failure to carry this number

Common error 3: Forgetting about the 'carry' number

```
    3  4  7
+   2  1  6
    5  5  3
```
7 + 6 = 13   Carry the ①

A good way to remember the carry number is to write it in a circle

```
    3  4  7
+   2  1  6
    5  6  3
       ①
```

Common error 4: Subtracting the number the wrong way round

```
    7  8  3
−   2  4  9
    5  4  6
```
Pupil does 9 − 3 instead of 3 − 9

Remember
3 take-away 9 you can't
So borrow from the '80'

Long multiplication

1	3 8 x 2 4	2	4 7 x 2 3	3	6 8 x 3 7
4	2 8 x 7 1	5	6 8 x 9 6	6	4 7 x 2 8
7	8 7 x 1 9	8	7 0 x 3 6	9	6 3 x 4 2
10	4 2 x 3 0	11	7 8 x 9 7	12	6 8 3 x 2 4
13	3 0 6 x 7 2 3	14	2 8 6 x 8 1	15	3 1 7 x 6 0
16	4 7 0 x 6 3	17	3 0 1 x 8 7	18	5 3 2 x 2 5
19	3 7 1 x 4 8	20	7 3 6 x 5 5	21	7 2 8 x 9 0
22	3 2 6 x 4 2 0	23	8 7 4 x 3 6 0	24	8 3 2 x 2 3 1
25	8 2 8 x 1 3 4	26	7 9 1 x 2 6 8	27	4 2 8 x 3 0 6
28	7 3 7 x 9 7	29	6 8 1 x 7 0 8	30	8 2 7 x 3 8 4

31   63 x 24   32   728 x 43   33   8761 x 27

34   852 x 41   35   6080 x 27   36   304 x 27

37   624 x 35   38   8723 x 361   39   4728 x 178

Long division – 1

Work out the answer and show the remainder, if any.

1　14)‾2‾3‾8‾　　　　　2　14)‾3‾2‾2‾　　　　　3　14)‾5‾7‾4‾

4　14)‾3‾9‾2‾　　　　　5　14)‾1‾0‾0‾8‾　　　6　14)‾8‾8‾2‾

7　14)‾7‾9‾8‾　　　　　8　14)‾6‾7‾2‾　　　　　9　14)‾4‾0‾6‾

10　23)‾3‾6‾8‾　　　　11　23)‾6‾2‾1‾　　　　12　23)‾9‾2‾0‾

13　23)‾1‾4‾2‾6‾　　　14　23)‾4‾8‾3‾　　　　15　23)‾1‾0‾8‾1‾

16　23)‾1‾6‾5‾6‾　　　17　23)‾6‾6‾7‾　　　　18　23)‾8‾2‾8‾

19　31)‾5‾5‾8‾　　　　20　31)‾8‾3‾7‾　　　　21　31)‾1‾3‾3‾3‾

22　47)‾1‾7‾3‾9‾　　　23　47)‾1‾3‾1‾8‾　　　24　47)‾8‾9‾7‾

25　28)‾6‾7‾2‾　　　　26　28)‾4‾8‾2‾　　　　27　28)‾1‾7‾6‾4‾

28　36)‾1‾0‾0‾9‾　　　29　36)‾1‾5‾4‾8‾　　　30　36)‾9‾7‾7‾

31　27)‾2‾2‾0‾4‾　　　32　27)‾1‾9‾5‾7‾　　　33　27)‾1‾8‾5‾7‾

34　34)‾2‾7‾1‾7‾　　　35　34)‾1‾5‾9‾8‾　　　36　34)‾9‾4‾8‾

37　38)‾1‾4‾8‾2‾　　　38　38)‾1‾0‾9‾1‾　　　39　38)‾2‾4‾0‾6‾

Level 3 exam

1   Here are some numbers on cards

3   **8**   **2**

   a   Write the number in words.
   b   Write the number to the nearest hundred.
   c   What is the largest number you can make with these cards?

2   David has these coins

£1   £1   £1   50p   20p   2p

   a   How much money does he have?
   b   He buys this pen

£1.95

     How much money does he have left?

3   Here are some numbers: -1, 7, 0, -8, 5
   a   Which is the largest number?
   b   Which is the smallest number?

4   Fill in the missing numbers to make the sums correct
   a   18 – ☐ = 6   b   5 + ☐ = 12

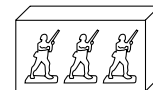5   Peter has 18 toy soldiers

   He places them in rows of five
   a   How many rows can he make and how many soldiers does he have left over?

   Peter decides to buy 10 more soldiers. Soldiers are sold in boxes of three.

   b   How many boxes should he buy?

6   a   Add these numbers: 237, 184, 68
   b   Take away 27 from 81

7   Here are some shapes

   There are four squares.
   Complete these sentences:
   a   There are ____ circles
   b   There are three _____

8   Which of these shapes are 3-D?

A   B   C   D   E