Having just bought a CURTA II, I searched on the web an algorithm for long divisions. Unfortunately I found only procedures suggesting to add the dividend how many times as to “build up in the result dial a number that comes as near as possible to the given dividend”, thus making no use of the reversing lever. I thought this procedure a bit ‘old-fashioned’ and decided to find another way by trials and errors.

I presume the reader is already accostumed with additions and subtractions.
**General rule**

1) Machine Ready (product dial and counter dial to zero)
2) Clearing lever as in Fig. 2
3) Reversing lever up (Fig. 3)
4) Operating handle down (addition)
5) Carriage position on 9-\(n\), where \(n\) is the number of digit of the dividend (CURTA II). (*)
6) Enter dividend by the setting knobs. The leftmost digit of the divisor should be in position 8.
7) Turn operating handle once, the dividend appears in the result dial and a unit on counter dial.
8) Clear counter dial, rotating clearing lever less than half a turn. Be careful not to clear the result dial!
9) Set one decimal marker on the counter dial \(n\) position from left.
10) Pull operating handle up (subtraction position)
11) Push reversing lever down. (This causes counter dial to increase by 1 for each turn, while product dial decreases)
12) All setting knobs to zero.
13) Enter the divisor on setting knobs starting from the leftmost figure in position 8. See below: (*)

<table>
<thead>
<tr>
<th>Carriage position</th>
<th>8</th>
<th>7</th>
<th>6</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dividend</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Divisor</td>
<td>Y</td>
<td>Y</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

14) Turn operating handle until the result is lower than the dividend. This is acknowledged by a number of 9s appearing to the left of the result. (**)  
15) Push operating handle down (addition)  
16) Turn operating handle once  
17) Move carriage one position CW  
18) Pull operating handle up (subtraction)  
19) Repeat 14-17 until the leftmost position (pos. 1) is reached by the carriage.  
20) Read the quotient on the counter dial. Decimal point is between \(n^\text{th}\) and \(n+1^\text{th}\) figures from the left. (\(n = \text{divisor’s number of digits}\))  
21) Read the remainder on the result dial. Decimal point between position 8-\(n^\text{th}\) and 7-\(n^\text{th}\)

**Notes**

(*) Steps 5 and 13; if the divisor has more than one figure, both dividend and divisor can be set at a higher position, in order to get more figures in the quotient. Both dividend and divisor can also be set at higher positions, in order to obtain quotient with more significant figures, i.e. multiplying both by a power of ten (see Example B).

(**) Steps 15-17 can be avoided evaluating by heart if the divisor is less then the first digits of the dividend.
Example A : 1234 / 56

1) …. 4) as above

5) Set carriage in position 5 (= 9-4)
6) Enter dividend (1234) with setting knobs 1-4
7) Turn operating handle once: result dial = 1234 in position 8-5; counter dial = 0001000
8) Clear counter dial
9) Set one decimal marker on counter dial to the right of 4th digit.
10) … 12)
13) Enter divisor (56) at position 7-8

<table>
<thead>
<tr>
<th>Carriage position</th>
<th>8</th>
<th>7</th>
<th>6</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dividend</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Divisor</td>
<td>5</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

14) Turn operating handle once, result = 99999995634 (negative),

15) push operating handle down
16) turn once. Result = 00000001234
17) move the carriage to position 6
18) rise operating handle
19) turn twice until first two digits in the result dials become 11 ( < 56) (see note **)
    move carriage on position 5
    two turns until first two digits in the result dial become 2 ( < 56)
    carriage on position 4, 20 still < 56, then…
    carriage to position 3, 200 > 56
    three turns, until 32 < 56
    carriage to position 2
    five turns, until 40 < 56
    carriage to position 1
    seven turns, until 4 < 56
20) quotient on counter dial = 00220357 = 22.0357 (having set decimal point in step 9)
21) remainder on result dial = 0.0008

Total movements : 22 handle turns and 8 carriage shifts.
Example B : 13 / 17

1) …. 4) as above

Multiply both numbers by 1000, 13000 / 17000

5) Set carriage in position 8
6) Enter dividend (13000) with setting knobs 1-5
7) Turn operating handle once: result dial = 13000 in position 12-8; counter dial = 10000000
8) Clear counter dial
9) … 12)
13) Enter divisor (17000) at position 12-8

<table>
<thead>
<tr>
<th>Carriage position</th>
<th>12</th>
<th>11</th>
<th>10</th>
<th>9</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dividend</td>
<td>1</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Divisor</td>
<td>1</td>
<td>7</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

14) Turn operating handle once, result = 99999995634 (negative),

17) move the carriage to position 7

19) turn seven times until first two digits in the result dials become 11 (< 17) (see note **)
   move carriage on position 6
   six turns until first two digits in the result dial becomes 08 (< 17)
   carriage on position 5,
   four turns until 12 < 17
   carriage to position 4
   seven turns, until 1 < 17
   as 10 is still < 17, carriage to position 2
   five turns, until 15 < 17
   carriage to position 1
   eight turns, until 14 < 17
20) quotient on counter dial = 0.7647058
21) remainder on result dial = 0.0000014

Total movements : 38 handle turns and 7 carriage shifts.