

to coincide exactly with the answer as obtained by the shorter method, and the whole sum will then take the following form:—

	Hundreds	Tens	Units		Hundreds	Tens	Units
7)	8	3	5	(	1	1	9
	7						
	<u>1</u>						
		3					
		<u>7</u>					
		6	5				
		6	3				
		<u>2</u>					

8. Add other example of division by numbers not greater than 12, and work them both on slates and on the blackboard, by Short Division and Long Division, comparing the steps as before and showing that in each case the two answers coincide.

II. Long Division by any Number.

1. Extend the preceding method to division by numbers greater than 12, and having factors. Take 21 for the first divisor, and assuming the dividend to be 4583, proceed as follows:—

Ask the children to work the sum on their slates. Thus:

	Thousands	Hundreds	Tens	Units
21 {	7) 4	5	8	3
	3) .	6	5	4 + 5
		2	1	8 + 0

3. Deduce that if Four thousand five hundred and eighty-three (oranges) be divided into Twenty-one lots, there would be Two hundred and eighteen (oranges) in each lot, and Five (oranges) would remain over.

4. Show from this, that, the answer now being known, the sum may be written in a still shorter form, thus:—

	Thousands	Hundreds	Tens	Units
21)	4	5	8	3
		2	1	8 + 5

5. Now work the same sum by Long Division, showing at each step (1) how the method in Section I, (above) is exactly followed, and (2) that each figure of the answer coincides with the figure in the corresponding column of the answer as obtained in the Short Division. Thus:—

	Thousands	Hundreds	Tens	Units		Thousands	Hundreds	Tens	Units
21)	4	5	8	3	(	.	2	1	8
	4	2							
		3	8						
		2	1						
		1	7	3					
		1	6	8					
				5					

6. Show why the Thousands column in the answer contains no figure—viz: because Four Thousands cannot be divided into more than Four parts, and therefore not into Twenty-one parts. They are therefore reduced to Forty Hundreds and added to the Five Hundreds, the Forty-Five Hundreds thus obtained being divided into Twenty-one parts, giving Two Hundreds in each part, while Three Hundreds remain over.

7. Add other examples of division by Factors and treat them similarly.

8. Lastly, apply the method to division by any number, graduating the divisors carefully in point of difficulty.*

III. Special Cases of Long Division.

1. Division by any Power of Ten.

*The order in which the divisors may be best taken will be somewhat as follows:—

21,	101,	311,	22,	102,	103,	....	100,	221,
31,	111,	401,	32,	202,	203,	....	209,	321,
41,	201,	411,	42,	302,	303,	....	309,	421,
..	211,	....	..	....	....	....	....	....
..	301,	901,	..	....	....	....	....	....
92,	....	911,	92,	902,	903,	....	909,	921.
								&c., &c.

(a) Give examples with Ten as a divisor, have them worked by the ordinary method, and deduce the rule for writing down the answer at sight.

(b) Give examples of division by One Hundred (=10 × 10) and deduce the rule as before.

(c) Write down the last examples in the shortened form of II. 4 above, show the factors of One Thousand (=100 × 10) and deduce a third rule accordingly. Thus:—

100 {	10) 2 8 3 9	
	10) 2 8 3 + 9	} 39
	2 8 + 3	
1000 {	100) 4 8 3 5 6	
	10) 4 8 3 + 56	} 356
	4 8 + 3	

(d) Deduce the general rule for dividing by any power of 10.

2. Division by Multiplies of Powers of Ten.

(a) Give examples of division by 20, 30, 40, &c. (= 10 × 2, 10 × 3, 10 × 4, &c.), and show how the preceding method may be applied to the working of the division in a single line.

(b) Extend the method, in separate steps, to division by 200, 300, 400, &c. 2000, 3000, 4000, &c. &c.

(c) Lastly, apply the same method to the shortened forms of division by such numbers as:—

- (1) 240, 350, 420, 960.
- (2) 2400, 3600, 4800, 8100.
- (3) 32000, 72000, 84000, &c., &c.

[NOTE.—Only the simpler parts of Section III. should be given until the children have made fairly good progress in Division generally, after which the others may be taught step by step.]

MENTAL EXERCISES.

1. Three girls together have in their purses sixteen shillings; if one has four and sixpence and another has six and ninepence, how much has the third? 2. What is the cost of seven boxes at five shillings and fourpence each? Of fourteen such boxes? 3. If my age is now thirty-four years, in what year was I born? 4. A horse is worth two cows, and a cow is worth two sheep, if a sheep be worth ten pounds, what is the total value of a horse, a cow, and a sheep? 5. Nine times the number of farthings in a bag are one hundred and eight; how many farthings are there in the bag? How many pence are they worth? 6. How much is one-half of a shilling? One-third? One-fourth? One-sixth? One-eighth? One-twelfth? 7. How many sixpences are twelve shillings worth? Fifteen shillings? Eighteen shillings and sixpence?

THE ROYAL READERS.

(Questions on Entrance Literature prepared for the CANADA SCHOOL JOURNAL by F. B. Denton, English Master, Collegiate Institute, Cobourg.)

GOLDSMITH, PAGE 135.

1. What is meant by the expression:—

- (a.) His nature is truant.
- (b.) Remembrance wakes with all her busy train.
- (c.) To husband out life's taper at the close.
- (d.) Angels around befriending virtue's friend.

2. Name the chief works of Thackeray. Compare his writings with the novels of Dickens.

3. Write short accounts of the lives of Dr. Johnson, Edmund Burke and Joshua Reynolds.

4. Express in prose the first twenty lines of the selection from "The Deserted Village."

5. Derive English, dire, sympathy, vicar, monarch, Utopia.

6. Parse italicised words in following:—

A blest retirement, friend to life's decline.
Retreats from care that never must be mine,
How happy he who crowns in shades like these
A youth of labor with an age of ease.

7. In what kind of metre is "The Deserted Village" written?