

**THE SCIENCE AND ART OF
ARITHMETIC; FOR
THE USE OF SCHOOLS.
EXERCISE BOOK. PART 1**

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The science and art of arithmetic; for the use of schools. Exercise book. Part 1 by A. Sonnenschein & H. A. Nesbitt

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A. SONNENSCHEIN & H. A. NESBITT

**THE SCIENCE AND ART OF
ARITHMETIC; FOR
THE USE OF SCHOOLS.
EXERCISE BOOK. PART 1**

THE SCIENCE AND ART
OR
ARITHMETIC;
for the Use of Schools.

EXERCISE BOOK. PART I.

BY
A. SONNENSCHEIN
AND
H. A. NESBITT, M.A., UNIV. COLL., LONDON.

"The mills of God grind slowly, but they grind exceeding small."



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WHITTAKER AND Co.

1877.

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181 . q . 145 .

EXERCISE BOOK. PART L.

EXERCISE L.

(1)	(2)	(3)	(4)		
<i>L.</i>	<i>s.</i>	<i>d.</i>	<i>L.</i>	<i>s.</i>	<i>d.</i>
5 4 2	5 3 4	7 6 10	7 8 11 $\frac{3}{4}$		
1 7 8	8 2 6	8 4 6	5 6 7 $\frac{1}{2}$		
(5)	(6)	(7)	(8)		
9 8 4	5 4 6 $\frac{1}{4}$	7 2 3 $\frac{1}{4}$	1 2 3		
2 7 3	3 8 9 $\frac{1}{4}$	8 4 2 $\frac{1}{2}$	4 5 6		
6 5 7	1 2 7 $\frac{1}{4}$	5 7 6 $\frac{3}{4}$	7 8 9		
			4 5		
(9)	(10)	(11)	(12)		
1 3 5 $\frac{1}{2}$	7 7 7 $\frac{1}{4}$	3 7 4	7 6 5		
5 8 9 $\frac{3}{4}$	8 9 10 $\frac{1}{2}$	6 4 8 $\frac{1}{4}$	4 3 2 $\frac{1}{2}$		
7 5 3 $\frac{1}{4}$	4 5 $\frac{1}{4}$	4 9 2 $\frac{1}{2}$	8 5 2		
9 2 7	8 2 7	2 6 0 $\frac{1}{2}$	9 6 9 $\frac{1}{4}$		
			2 3 8		
(13)	(14)	(15)	(16)		
8 7 9 $\frac{3}{4}$	1 2 4 $\frac{1}{2}$	6 2 4 $\frac{1}{2}$	2 6 9 $\frac{3}{4}$		
8 7 9 $\frac{3}{4}$	4 8 3	6 5 9 $\frac{1}{4}$	3 7 11 $\frac{1}{2}$		
8 7 9 $\frac{3}{4}$	1 5 7 $\frac{3}{4}$	3 2 10 $\frac{1}{2}$	4 8 10		
8 7 9 $\frac{3}{4}$	5 7 7 $\frac{1}{4}$	7 0 0 $\frac{3}{4}$	5 9 9 $\frac{1}{4}$		
8 7 9 $\frac{3}{4}$	9 1 7 $\frac{1}{4}$	8 8 8	6 5 8		

(17)

£.	s.	d.
3	6	4
3	8	8
6	6	7
2	6	6
9	4	1
7	9	9

(18)

£.	s.	d.
8	4	5
6	3	9
9	4	10 $\frac{1}{4}$
7	6	7 $\frac{1}{8}$
5	5	5
3	7	8

(19)

£.	s.	d.
1	2	3 $\frac{1}{4}$
4	5	6 $\frac{1}{3}$
7	8	9
9	6	3 $\frac{5}{4}$
6	8	5
7	4	1 $\frac{1}{8}$

(20)

£.	s.	d.
1	4	6 $\frac{3}{4}$
9	6	7 $\frac{1}{2}$
2	6	8 $\frac{1}{4}$
6	8	4 $\frac{1}{4}$
3	6	9 $\frac{1}{4}$
2	7	0

(21)

4	7	7 $\frac{1}{2}$
4	8	11 $\frac{1}{2}$
2	5	11 $\frac{1}{2}$
7	8	9 $\frac{1}{4}$
6	6	6 $\frac{1}{4}$
7	9	5 $\frac{3}{4}$

(22)

7	6	4 $\frac{5}{8}$
8	6	3 $\frac{3}{4}$
5	9	4 $\frac{1}{4}$
4	7	11 $\frac{1}{2}$
5	8	9 $\frac{1}{4}$
2	2	1 $\frac{1}{2}$

(23)

2	7	8
5	9	3
4	2	11
7	8	4
6	2	1
1	0	6
3	9	10

(24)

3	1	6 $\frac{1}{4}$
7	4	5 $\frac{1}{2}$
2	7	9 $\frac{1}{2}$
2	8	10 $\frac{1}{4}$
9	0	8 $\frac{1}{4}$
3	4	11 $\frac{3}{4}$
1	6	2 $\frac{5}{8}$

(25)

1	3	9 $\frac{1}{2}$
2	7	2 $\frac{5}{4}$
3	6	4
8	7 $\frac{1}{4}$	
4	9	1 $\frac{1}{2}$
6	9	5 $\frac{1}{2}$
8	8	8

(26)

8	9	4
2	5	7
8	6	3
6	9	5
1	4	9
3	8	10
6	4	11

(27)

9	8	7 $\frac{1}{2}$
6	5	4 $\frac{1}{4}$
3	2	1 $\frac{1}{2}$
1	4	2 $\frac{1}{6}$
7	5	8 $\frac{3}{4}$
3	8	4 $\frac{1}{8}$
6	1	5 $\frac{3}{4}$

(28)

6	7	9 $\frac{1}{4}$
1	8	10 $\frac{1}{4}$
2	9	11 $\frac{1}{2}$
3	5	4 $\frac{5}{4}$
9	7	6 $\frac{3}{4}$
7	5	9 $\frac{1}{2}$
8	7	2 $\frac{1}{2}$

(29)

6	9	11 $\frac{1}{4}$
4	9	4 $\frac{1}{2}$
2	6	6 $\frac{3}{4}$
3	9	9 $\frac{5}{4}$
8	7	2 $\frac{1}{4}$
8	9	7 $\frac{3}{4}$
6	7	5 $\frac{1}{2}$

(30)

8	1	2
7	3	4
6	5	9
6	5	4
3	2	1
3	7	8
2	1	11
1	4	10

(31)

5	7	8
3	8	7 $\frac{1}{2}$
7	7	9
2	8	9
9	8	9
4	7	5 $\frac{1}{4}$
5	9	4
8	8	3

(32)

8	7	10 $\frac{1}{2}$
5	4	4
6	2	2 $\frac{1}{4}$
7	9	9
7	7	10 $\frac{3}{4}$
6	7	4
8	6	5 $\frac{1}{2}$
4	3	2 $\frac{1}{2}$

(33)

L.	s.	d.
1	9	7 $\frac{1}{2}$
2	0	8 $\frac{1}{4}$
3	1	9 $\frac{3}{4}$
4	2	10 $\frac{1}{4}$
5	3	11 $\frac{1}{2}$
6	4	1 $\frac{5}{4}$
7	5	2 $\frac{1}{4}$
8	6	3 $\frac{1}{2}$

(34)

L.	s.	d.
7	8	7 $\frac{1}{2}$
7	9	9
6	0	4
5	0	3
9	9	8
7	6	3
2	2	0 $\frac{1}{4}$
5	5	7 $\frac{1}{2}$

(35)

L.	s.	d.
1	9	10 $\frac{1}{4}$
4	8	9 $\frac{1}{2}$
2	7	11 $\frac{1}{4}$
3	8	2 $\frac{1}{2}$
6	9	8 $\frac{3}{4}$
8	7	6 $\frac{3}{4}$
4	6	7 $\frac{1}{2}$
7	5	3

(36)

L.	s.	d.
6	8	4
6	9	5
7	3	10
4	3	11
7	7	7
6	8	4
3	2	7
1	1	1 $\frac{1}{4}$

(37)

L.	s.	d.
5	5	3
7	6	8 $\frac{1}{4}$
4	9	7
9	9	4 $\frac{1}{4}$
2	3	5
6	0	7 $\frac{1}{4}$
7	7	7
8	7	7 $\frac{1}{4}$

(38)

L.	s.	d.
4	7	3 $\frac{1}{3}$
6	5	9 $\frac{1}{4}$
8	8	10 $\frac{3}{4}$
2	2	4
1	6	11
3	5	5 $\frac{3}{4}$
5	9	1 $\frac{1}{2}$
7	8	2 $\frac{1}{3}$

(39)

L.	s.	d.
1	2	3 $\frac{1}{3}$
4	5	6 $\frac{1}{2}$
7	8	9 $\frac{1}{2}$
1	0	11 $\frac{1}{2}$
1	2	1 $\frac{3}{4}$
4	5	6 $\frac{1}{4}$
5	6	7 $\frac{1}{4}$
3	6	9 $\frac{3}{4}$
7	6	5 $\frac{3}{4}$

(40)

L.	s.	d.
1	0	2
2	2	5
3	4	8 $\frac{1}{3}$
4	6	11
5	8	4
6	0	7
7	2	0 $\frac{1}{4}$
8	4	3
9	6	6

(41)

L.	s.	d.
8	0	10 $\frac{1}{2}$
7	0	3 $\frac{1}{4}$
9	0	5 $\frac{1}{2}$
6	0	7 $\frac{1}{4}$
2	0	8 $\frac{1}{2}$
2	0	9 $\frac{1}{2}$
2	0	6 $\frac{1}{4}$
3	0	6 $\frac{3}{4}$
7	0	2 $\frac{3}{4}$

(42)

L.	s.	d.
6	5	7 $\frac{1}{2}$
5	7	7 $\frac{1}{2}$
1	7	5 $\frac{1}{4}$
7	6	11
8	9	9
4	8	8 $\frac{1}{2}$
3	7	7
9	9	9
5	3	6 $\frac{1}{2}$

(43)

L.	s.	d.
7	6	5 $\frac{1}{2}$
8	8	10 $\frac{1}{4}$
3	6	11 $\frac{3}{4}$
6	8	10 $\frac{1}{2}$
2	7	11 $\frac{1}{4}$
9	7	11 $\frac{3}{4}$
4	9	9 $\frac{1}{2}$
5	3	6 $\frac{1}{2}$

(44)

L.	s.	d.
9	9	7 $\frac{1}{3}$
7	6	4 $\frac{1}{4}$
3	7	6 $\frac{1}{2}$
3	9	7 $\frac{1}{2}$
6	2	5 $\frac{1}{4}$
3	2	3
7	6	5
4	0	0
9	9	9 $\frac{1}{2}$

(45)

£.	s.	d.
3	2	0
1	8	9 $\frac{1}{3}$
4	1	9 $\frac{1}{4}$
1	4	0 $\frac{1}{4}$
5	2	9 $\frac{3}{4}$
9	8	7
2	7	6 $\frac{1}{2}$
1	6	3
4	3	2 $\frac{1}{4}$

(46)

£.	s.	d.
9	8	7 $\frac{1}{4}$
9	9	10 $\frac{5}{4}$
9	3	7 $\frac{5}{4}$
5	7	8 $\frac{3}{4}$
6	6	6 $\frac{1}{4}$
7	5	2 $\frac{1}{2}$
3	0	4 $\frac{1}{4}$
4	2	2 $\frac{1}{4}$
2	9	11 $\frac{1}{2}$
7	6	3 $\frac{1}{2}$

(47)

£.	s.	d.
3	7	8 $\frac{3}{4}$

(48)

£.	s.	d.
6	1	5
2	3	11
9	7	6
8	7	10
8	9	9
5	7	3
3	4	6
8	6	3
9	8	7
2	3	2

(49)

1	6	11 $\frac{1}{2}$
2	7	6 $\frac{3}{4}$
3	8	5 $\frac{1}{4}$
4	1	7 $\frac{1}{2}$
5	9	4 $\frac{1}{2}$
6	2	8 $\frac{5}{4}$
7	3	3 $\frac{1}{2}$
8	5	9 $\frac{3}{4}$
9	4	2 $\frac{1}{2}$
9	0	10 $\frac{1}{2}$

(50)

1	0	9 $\frac{1}{2}$
2	8	7 $\frac{1}{2}$
3	6	5 $\frac{5}{4}$
6	4	11 $\frac{1}{2}$
4	9	10 $\frac{3}{4}$
8	7	8 $\frac{1}{2}$
9	4	5 $\frac{1}{2}$
3	3	2 $\frac{1}{2}$
7	9	4 $\frac{1}{4}$
4	4	6

(51)

7	6	8 $\frac{1}{2}$
1	5	11 $\frac{5}{4}$
2	7	3
3	8	5 $\frac{1}{2}$
8	9	8
9	1	7 $\frac{1}{4}$
4	4	6
6	2	2 $\frac{1}{2}$
5	6	10
5	3	8
5	3	1 $\frac{1}{2}$

(52)

8	5	3 $\frac{1}{2}$
9	6	4
7	3	11 $\frac{1}{3}$
7	8	10
9	5	6 $\frac{3}{4}$
8	3	7
8	7	7 $\frac{3}{4}$
9	5	9
7	6	4 $\frac{1}{2}$
9	3	3 $\frac{1}{2}$
6	2	6 $\frac{1}{2}$

EXERCISE II.

(1)

£.	s.	d.
538	13	10 $\frac{1}{2}$
8427	15	8 $\frac{3}{4}$
13	17	11
642	8	7 $\frac{1}{2}$

(2)

£.	s.	d.
7040	19	1 $\frac{1}{2}$
86	13	5 $\frac{3}{4}$
942	8	7 $\frac{1}{4}$
2568	10	10 $\frac{1}{2}$

(3)

£.	s.	d.
42768	7	8 $\frac{1}{4}$
13590	13	2 $\frac{3}{4}$
276	12	1 $\frac{1}{4}$
8402	5	8 $\frac{3}{4}$
35679	16	3 $\frac{3}{4}$

(4)	(5)	(6)
£. s. d.	£. s. d.	£. s. d.
796 15 8 $\frac{3}{4}$	7684 7 8 $\frac{1}{2}$	786 13 10
1248 19 11	15 3 $\frac{1}{4}$	5419 12 8
2125 13 10 $\frac{3}{4}$	19 13 10	8 17 6
203 4 3 $\frac{1}{4}$	256 15 11 $\frac{3}{4}$	427 11 2
8751 0 1	1825 8 4 $\frac{1}{2}$	2040 13 3
2125 13 10 $\frac{3}{4}$	32769 12 9 $\frac{1}{2}$	966 16 6
	82103 1 7	7045 1 11

(7)	(8)
£. s. d.	£. s. d.
2197 12 10 $\frac{1}{2}$	127556 11 4 $\frac{1}{2}$
1208 0 8 $\frac{1}{2}$	71042 2 3
319 14 11 $\frac{1}{2}$	48931 19 7 $\frac{1}{2}$
9420 9 9 $\frac{3}{4}$	1632197 3 6 $\frac{1}{2}$
8531 16 7 $\frac{1}{2}$	49823 18 9 $\frac{3}{4}$
7642 1 2 $\frac{1}{4}$	3286 5 8
6753 18 6 $\frac{3}{4}$	254719 16 10 $\frac{1}{2}$
5864 3 5 $\frac{1}{2}$	6609 7 11 $\frac{1}{2}$

(9)	(10)
£. s. d.	£. s. d.
416 13 11	1678 18 11 $\frac{1}{2}$
5274 14 6	5246 17 10
3708 5 8	356 13 5 $\frac{3}{4}$
2415 9 9	8562 5 9
56780 17 3	3427 6 0 $\frac{1}{3}$
26317 6 4	6 11 5 $\frac{1}{2}$
8412 18 10	249 12 3 $\frac{1}{3}$
90710 4 1	8542 6 0 $\frac{1}{4}$
11768 12 2	67 10 8 $\frac{1}{4}$
1259 17 5	243 19 2 $\frac{1}{3}$
32708 8 7	14274 8 4 $\frac{3}{4}$
673591 19 6	57343 9 10 $\frac{3}{4}$

(11) Add five hundred and thirty-nine pounds, fifteen shillings and sevenpence ; eighteen pounds, nine shillings and twopence three farthings.

(12) Add four hundred and sixty-seven pounds, ten shillings and ninepence halfpenny ; eight thousand, four hundred and fourteen pounds, three shillings and sevenpence halfpenny ; six pounds, six shillings and sixpence halfpenny.

(13) Add five hundred and fifty-eight pounds, four shillings and ninepence three farthings ; twenty-five pounds, fifteen shillings and twopence three farthings ; five hundred and thirty-two pounds, nine shillings and sevenpence ; seven thousand and ten pounds, eleven shillings and fourpence halfpenny.

(14) Add four thousand, two hundred and seventy-nine pounds, thirteen shillings and eightpence halfpenny ; one hundred and seventy-six pounds, fifteen shillings and ninepence ; two thousand and forty pounds, eleven shillings and tenpence farthing ; one thousand, eight hundred and fifty-seven pounds, sixteen shillings and ninepence halfpenny ; eight hundred and fifty-five pounds, five shillings and fivepence three farthings.

(15) Add eight hundred and fifty-three pounds, twelve shillings and ninepence ; one thousand, eight hundred and sixty-six pounds, four shillings and tenpence ; eight hundred and fifty-one pounds, two shillings and elevenpence ; two thousand, eight hundred and twenty-five pounds, eight shillings and fourpence ; seventy-six thousand, nine hundred and two pounds, eleven shillings and threepence ; sixteen thousand, seven hundred pounds, nineteen shillings and elevenpence.

(16) Add nine thousand, two hundred and ten pounds, three shillings and sevenpence three farthings ; eight thousand, one hundred and twenty-seven pounds, and one shilling ; eight thousand, eight hundred and eighty-eight pounds and elevenpence halfpenny ; fifty-three pounds, thirteen shillings and eightpence halfpenny ; twelve thousand and seventy-two pounds, three shillings and one penny ; nine hundred and seventy-eight pounds, sixteen shillings and threepence farthing ; four thousand and sixty-three pounds, fifteen shillings and sixpence halfpenny.