

# Grade 5 – Book A

(CAPS edition)

## CONTENTS:

	<u>Page:</u>
A1. Number systems	3
A2. Place value	13
A3. Basic operations	
Addition	35
Subtraction	41
Multiplication	53
Division	81
A4. Time	109

To the learners: Always use rough paper to do calculations that are more difficult.

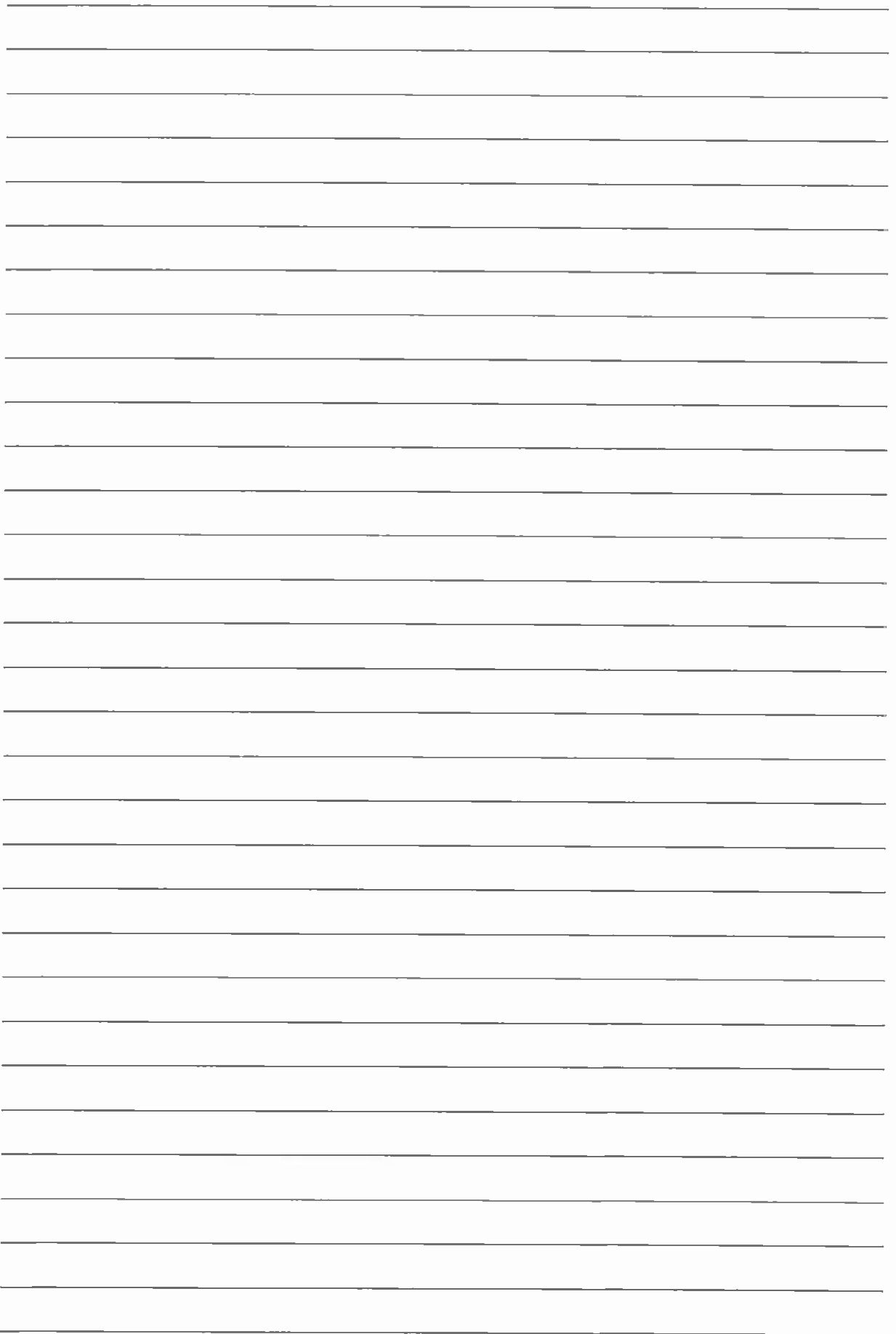
To the teachers: Some exercises are meant for mental arithmetic's (Speed tests).

This book was compiled and processed by E. Language in 2013 in collaboration with E.J. Du Toit.

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## Chapter A1

### Number systems

#### A1.1 Natural numbers, whole numbers, even and uneven numbers:

<b>NATURAL NUMBERS</b> 1 ; 2 ; 3 ; 4 ; 5 ; 6 ; 7 ; 8 ; 9 ; ___
<b>WHOLE NUMBERS</b> 0 ; 1 ; 2 ; 3 ; 4 ; 5 ; 6 ; 7 ; 8 ; 9 ; ___
<b>Even numbers:</b> 2 ; 4 ; 6 ; 8 ; 10 ; ... Divisible by 2 without a remainder.
<b>Uneven numbers:</b> 1 ; 3 ; 5 ; 7 ; 9 ; 11 ; ... If a number is divided by 2 there will be a remainder.

#### Exercise 1:

Date: \_\_\_\_\_

(1) Complete the number patterns:

(a) Whole numbers smaller than 10:

1	2	3	4	5	6	7	8	9
---	---	---	---	---	---	---	---	---

(b) Whole numbers **between** 20 and 30:

21	22	23	24	25	26	27	28	29
----	----	----	----	----	----	----	----	----

(c) The 10 even numbers between 40 and 60:

42	44	46	48	50	52	54	56	58
----	----	----	----	----	----	----	----	----

(d) Uneven numbers from 15 to 35:

15	17	19	21	23	25	27	29	31	33	35
----	----	----	----	----	----	----	----	----	----	----

(e) Even numbers smaller than 90 but greater than 66:

68	70	72	74	76	78	80	82	84	86	88
----	----	----	----	----	----	----	----	----	----	----

(f) The 14 uneven numbers between 20 and 50:

22	24	26	28	30	32	34	36	38	40	42	44	46	48
----	----	----	----	----	----	----	----	----	----	----	----	----	----

(g) The even numbers smaller than 150 and greater than 130:

132	134	136	138	140	142	144	146	148
-----	-----	-----	-----	-----	-----	-----	-----	-----



(h) The first 12 uneven whole numbers:

1	3	5	7	9	11	13	15	17	19	21	23
---	---	---	---	---	----	----	----	----	----	----	----

(i) Start with 42 and add two's up to 60:

42	44	46	48	50	52	54	56	58	60
----	----	----	----	----	----	----	----	----	----

(j) Start with 145 and add fives up to 180:

145	150	155	160	165	170	175	180
-----	-----	-----	-----	-----	-----	-----	-----

(k) Start with 168 and add three's up to 192:

168	171	174	177	180	183	186	189	192
-----	-----	-----	-----	-----	-----	-----	-----	-----

(l) Start with 120 and add fours up to 160:

120	124	128	132	136	140	144	148	152	156	160
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

(m) Start with 260 and add sixes up to 320:

260	266	272	278	284	290	296	302	306	314	320
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

**Exercise 2:**

Date: \_\_\_\_\_

(1) Write the next five numbers in each pattern:

(a) 2; 4; 6; 8; 10; 

12	14	16	18	20
----	----	----	----	----

(b) 5; 8; 11; 14; 17; 

20	23	26	29	32
----	----	----	----	----

(c) 2; 7; 12; 17; 

22	27	32	37	42	47
----	----	----	----	----	----

(d) 5; 6; 8; 11; 15; 

20	26	33	41	50
----	----	----	----	----

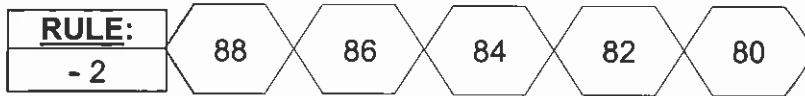
(e) 101; 111; 121; 

131	141	151	161	171
-----	-----	-----	-----	-----



Each pattern has a rule:

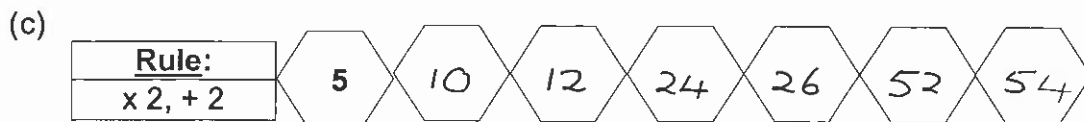
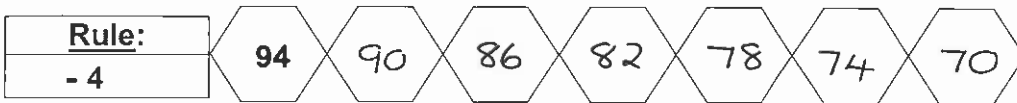
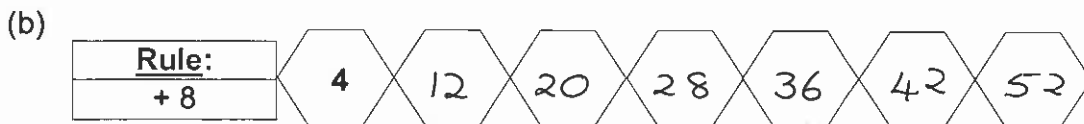
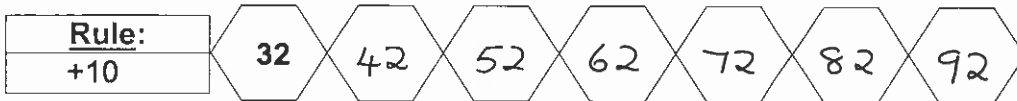
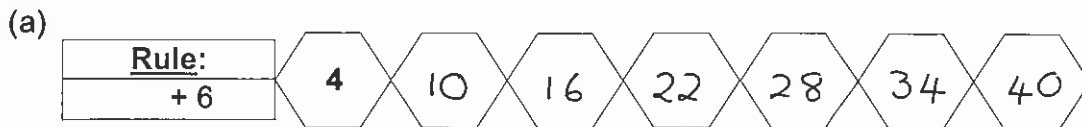
**EXAMPLE A:**



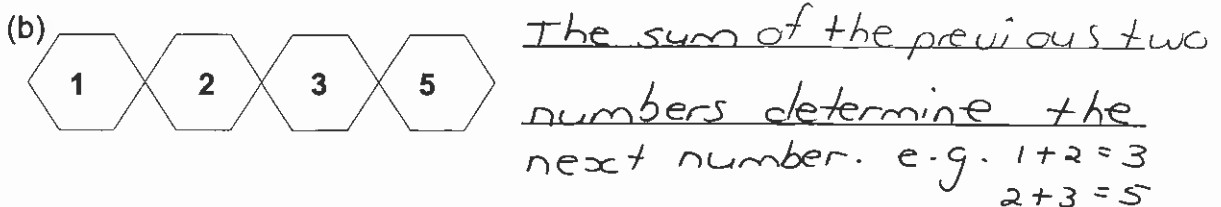
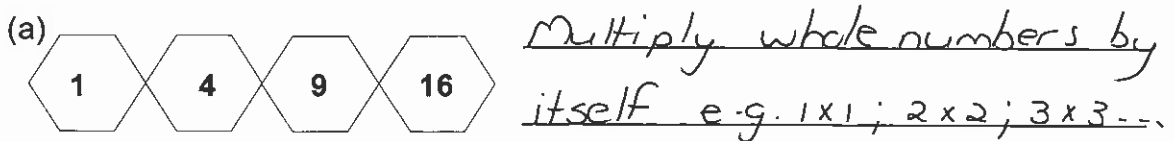
**EXAMPLE B:**



(2) Use the given rules and complete the patterns:



(3) Write the rule for each pattern in words:







**Exercise 3:**

Date: \_\_\_\_\_

Use the number chart to answer the questions below.

101	102	103	104	105	106	107	108	109	110
111	112	113	114	115	116	117	118	119	120
121	122	123	124	125	126	127	128	129	130
131	132	133	134	135	136	137	138	139	140
141	142	143	144	145	146	147	148	149	150
151	152	153	154	155	156	157	158	159	160
161	162	163	164	165	166	167	168	169	170
171	172	173	174	175	176	177	178	179	180
181	182	183	184	185	186	187	188	189	190
191	192	193	194	195	196	197	198	199	200

(1) Write the numbers as requested:

(a) The numbers in the fourth column: [Write the rule in words.]

104	114	124	134	144	154	164	174	184	194
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

Rule: Add 10

(b) The numbers in the seventh row: [Write the rule in words.]

161	162	163	164	165	166	167	168	169	170
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

Rule: Add 1

(c) Add 10 to 121 and then subtract 5 :

126

(d) 10 more than 134 is:

144

(e) Subtract 20 from 171 and then add 2:

153

(f) 40 more than 120 is:

160

(g) 122 minus 7 and then 7 more:

122

(h)  $160 + 10 - 5$  is:

165

(i)  $156 + 4 - 8 + 2$  is:

154

(j)  $177 + 20 - 2$  is:

195

(k)  $167 - 7 + 30$  is:

190

(l)  $189 - 6 - 4 - 10$  is:

169

(m)  $134 + 20 - 30$  is:

124

(n)  $179 - 20 - 10 - 5$  is:

144

(o)  $145 + 40 - 13$  is:

172

(p)  $188 - 25 + 14$  is:

177

(q)  $224 - 4 + 12$  is:

232

(r)  $876 + 3 - 4$  is:

875

***Did you observe?***

Rule for the columns: + 10

Rule for the rows: +1



(2) Make up the tens and write the answer:

$$(a) \quad 11 + 29 - 3 = \underline{37} \quad (b) \quad 18 + 2 + 19 = \underline{39}$$

$$(c) \quad 11 + 19 - 1 = \underline{29} \quad (d) \quad 5 + 45 - 2 = \underline{48}$$

$$(e) \quad 45 - 5 + 12 = \underline{52} \quad (f) \quad 7 + 13 - 6 = \underline{14}$$

$$(g) \quad 14 - 4 + 30 = \underline{40} \quad (h) \quad 78 - 8 - 10 = \underline{60}$$

$$(i) \quad 120 - 30 + 15 = \underline{105} \quad (j) \quad 110 + 34 - 10 = \underline{134}$$

$$(k) \quad 156 - 6 + 30 = \underline{180} \quad (l) \quad 254 - 54 + 6 = \underline{206}$$

$$(m) \quad 657 - \underline{50} - 7 = \underline{600} \quad (n) \quad 784 - \underline{84} = \underline{700}$$

$$*(o) \quad 150 - 50 + \underline{30} = \underline{130} \quad *(p) \quad 300 + 5 - \underline{6} = \underline{299}$$

$$*(q) \quad 345 - 5 + \underline{60} = \underline{400} \quad *(r) \quad 467 + 13 + \underline{20} = \underline{500}$$

(3) Write the missing answers. Also write the rule on the right-hand side.

						<b>Rule:</b>
(a)	136	138	140	142	144	+ 2
(b)	30	25	20	15	10	- 5
(c)	99	106	113	120	127	+ 7
(d)	124	134	144	154	164	+ 10
(e)	666	555	444	333	222	- 111
(f)	12	24	36	48	60	+ 12
(g)	15	30	45	60	75	+ 15



## Chapter A2

### Place value

#### A.2.1 Place value and number value:

This table shows the first 6 places left of the comma:

HT	TTh	Th	H	T	U
					1
				1	0
			1	0	0
		1	0	0	0
	1	0	0	0	0
1	0	0	0	0	0
THOUSANDS COLUMN			HUNDREDS COLUMNS		

**Remember:**

It is always wise to have a gap between the hundreds and the thousands.

**E.g.** One hundred and thirty eight thousand four hundred and eleven  
= 138 411

**Exercise 1:**

**Date:** \_\_\_\_\_

(1) Read the numbers aloud and then write the numbers in words.

(a) 3 548	(b) 12 576	(c) 20 570	(d) 56 413	(e) 120 005
-----------	------------	------------	------------	-------------

- (a) Three thousand five hundred and forty eight.
- (b) Twelve thousand five hundred and seventy six.
- (c) Twenty thousand five hundred and seventy.
- (d) Fifty six thousand four hundred and thirteen.
- (e) One hundred and twenty thousand and five.

## SUBTRACTION (Speed test)

Exercise A2A:

Date: \_\_\_\_\_

Only write the answer:

$7 - 3 = \underline{4}$	$11 - 2 = \underline{9}$	$16 - 8 = \underline{8}$	$23 - 5 = \underline{18}$
$4 - 4 = \underline{0}$	$12 - 3 = \underline{9}$	$17 - 8 = \underline{9}$	$43 - 4 = \underline{39}$
$5 - 1 = \underline{4}$	$12 - 4 = \underline{8}$	$14 - 6 = \underline{8}$	$23 - 9 = \underline{14}$
$6 - 5 = \underline{1}$	$17 - 5 = \underline{12}$	$15 - 8 = \underline{7}$	$13 - 7 = \underline{6}$
$8 - 3 = \underline{5}$	$11 - 9 = \underline{2}$	$26 - 7 = \underline{19}$	$23 - 8 = \underline{15}$
$7 - 6 = \underline{1}$	$16 - 3 = \underline{13}$	$14 - 7 = \underline{7}$	$33 - 7 = \underline{26}$
$9 - 4 = \underline{5}$	$18 - 4 = \underline{14}$	$14 - 5 = \underline{9}$	$30 - 6 = \underline{24}$
$8 - 2 = \underline{6}$	$15 - 7 = \underline{8}$	$17 - 9 = \underline{8}$	$23 - 3 = \underline{20}$
$5 - 0 = \underline{5}$	$12 - 8 = \underline{4}$	$14 - 5 = \underline{9}$	$43 - 0 = \underline{43}$
$7 - 4 = \underline{3}$	$17 - 2 = \underline{15}$	$18 - 9 = \underline{9}$	$41 - 9 = \underline{32}$

Total: Total: Total: Total:   
Total out of 40:  

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(2) Write the following numbers:

(a) Three thousand one hundred seventy-eight

3 178
-------

(b) Twenty-seven thousand nine hundred fourteen

27 914
--------

(c) Eighty-nine thousand eight hundred forty-one

89 841
--------

(d) Ten thousand seven hundred forty

10 740
--------

(e) Thirty-three thousand eight hundred ninety-nine

33 899
--------

(f) One hundred forty-two thousand and six

142 006
---------

(g) Fourteen thousand one hundred and two

14 102
--------

(h) Three hundred and eighteen thousand six hundred and twelve

318 612
---------

(i) Four hundred and thirty six thousand

436 000
---------

(3) Write the numbers below:

(a) Each 'X' represent 1 digit unit:

(i)

HTh	TTh	H	T	U
X				
X		X		
X	X	X		
X	X	X		X
X	X	X		X
5	3	4	0	2

(ii)

TTh	Th	H	T	U
	X			
	X			
X	X			
X	X	X	X	
X	X	X	X	
3	5	2	2	0

(iii)

HTh	TTh	Th	H	T	U
			X		
			X		X
		X	X	X	X
X		X	X	X	X
X		X	X	X	X
2	0	3	5	3	4

(b) Each 'X' represent 2 digit units:

(i)

HTh	TTh	H	T	U
X		X		
X		X	X	
X	X	X	X	
X	X	X	X	X
8	4	8	6	2

(ii)

TTh	Th	H	T	U
	X			
	X			
X	X	X	X	
X	X	X	X	
4	8	4	4	0

(iii)

HTh	TTh	Th	H	T	U
			X		
		X	X	X	X
X		X	X	X	X
X		X	X	X	X
4	0	6	8	6	6





**Exercise 2:**

Date: \_\_\_\_\_

(1) Write in expanded notation:

Ex. 34 189 = 30 000 + 4 000 + 100 + 80 + 9
--

(a)  $7\ 921 = \underline{7\ 000 + 900 + 20 + 1}$

(b)  $7\ 021 = \underline{7\ 000 + 20 + 1}$

(c)  $100\ 892 = \underline{100\ 000 + 800 + 90 + 2}$

(d)  $100\ 001 = \underline{100\ 000 + 1}$

(e)  $909\ 009 = \underline{900\ 000 + 9000 + 9}$

(f)  $2\ 000\ 111 = \underline{2\ 000\ 000 + 100 + 10 + 1}$

**REMEMBER:**

1 T = 1 X 10	1 H = 1 X 100	2 Th = 1 X 1 000	1 TTh = 1 X 10 000	1 HTh = 1 X 100 000
--------------	---------------	------------------	--------------------	---------------------

(2) Fill in the missing number:

(a)  $3\ 478 = (3 \times 1\ 000) + (4 \times 100) + (7 \times \underline{10}) + (8 \times \underline{1})$

(b)  $6\ 510 = (6 \times \underline{1\ 000}) + (5 \times \underline{100}) + (1 \times 10)$

(c)  $12\ 600 = (1 \times \underline{10\ 000}) + (2 \times \underline{1\ 000}) + (6 \times \underline{100})$

(d)  $11\ 780 = (1 \times \underline{10\ 000}) + (1 \times \underline{1\ 000}) + (78 \times 10)$

(e)  $5\ 104 = (5 \times \underline{1\ 000}) + (1 \times \underline{100}) + (4 \times \underline{1})$

(3) Complete the following:

(a)  $23\ 478 = (23 \times 1\ 000) + (47 \times 10) + (8 \times 1)$

(b)  $30\ 560 = (3 \times 10\ 000) + (56 \times \underline{10})$

(c)  $45\ 678 = (45 \times \underline{1\ 000}) + (6 \times \underline{100}) + (78 \times 1)$

(d)  $311\ 780 = (311 \times \underline{1\ 000}) + (78 \times \underline{10})$

(e)  $12\ 346 = (12 \times \underline{1\ 000}) + (34 \times \underline{10}) + (6 \times 1)$

(f)  $23\ 400 = (2 \times \underline{10\ 000}) + (34 \times \underline{100})$

(g)  $45\ 721 = (45 \times \underline{1\ 000}) + (72 \times \underline{10}) + (1 \times 1)$

(h)  $14\ 500 = (145 \times \underline{100})$

(i)  $76\ 940 = (7694 \times \underline{10})$

(j)  $67\ 352 = 673 \times \underline{100} + (52 \times \underline{1})$



**Exercise 3:**

Date: \_\_\_\_\_

(1) Some more placement values.

(a) Write the following numbers:

- |                           |               |                            |               |
|---------------------------|---------------|----------------------------|---------------|
| (i) 14 unites =           | <u>14</u>     | (ii) 34 tens =             | <u>340</u>    |
| (iii) 20 tens =           | <u>200</u>    | (iv) 51 hundreds =         | <u>5100</u>   |
| (v) 80 hundreds =         | <u>8000</u>   | (vi) 43 thousands =        | <u>43000</u>  |
| (vii) 21 ten thousands =  | <u>210000</u> | (viii) 10 thousands =      | <u>10000</u>  |
| (ix) 5 hundred thousand = | <u>500000</u> | (x) 65 thousands =         | <u>65000</u>  |
| (xi) 120 hundreds =       | <u>12000</u>  | (xii) 30 ten thousands =   | <u>300000</u> |
| (xiii) 140 unites =       | <u>140</u>    | (xiv) 1 hundred thousand = | <u>100000</u> |
| (xv) 23 hundreds =        | <u>2300</u>   | (xvi) $2 \times 45$ tens = | <u>900</u>    |
| $4 \times 25 = 100$       |               | $10 \times 10 = 100$       |               |
| (xvii) 4 x 25 tens =      | <u>1000</u>   | (xviii) 10 times 10 tens = | <u>1000</u>   |

(b) Write the correct number:

- |                     |  |                           |  |
|---------------------|--|---------------------------|--|
| (i) 10 T =          | <u>100</u>                               | (ii) 14 Th =              | <u>14000</u>                                 |
| (iii) 10 TTh =      | <u>100000</u>                            | (iv) 80 Th =              | <u>80000</u>                                 |
| (v) 2 H + 6 T =     | <u>260</u>                               | (vi) 13 T + 24 Th + 2 U = | <u>24132</u>                                 |
| (vii) 2 TTh + 3 H = | <u>20300</u>                             | (viii) 41 T =             | <u>410</u>                                   |
| (ix) 12 Th =        | <u>12000</u>                             | (x) 12 TTh =              | <u>120000</u>                                |
| (xi) 162 H =        | <u>16200</u>                             | (xii) 7 H + 3 T + 24 U =  | <u>730 + 24</u><br><u>= 754</u>              |
| (xiii) 23 H + 34 Th | <u>= 2300 + 34000</u><br><u>= 36300</u>  | (xiv) 12 T + 32 H         | <u>= 120 + 3200</u><br><u>= 3320</u>         |
| (xv) 12 Th + 120 H  | <u>= 12000 + 12000</u><br><u>= 24000</u> | (xvi) 34 Th + 45 T + 2 H  | <u>= 34000 + 450 + 200</u><br><u>= 34650</u> |

