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Learning MATHS 2A

Reviewed and recommended by Teachers and Parents

SAMPLE

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Learning Maths Book 2A

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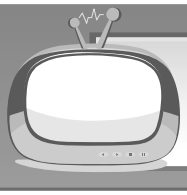
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PREFACE

Learning Maths Book 2A is a comprehensive workbook that provides students with ample practice on various mathematics question types. How is the book helpful to students?

Summary of Learning Outcomes
Refer to the overview of the topics in the book which sets the pace for learning each topic.

Formulae Sheet
Check and recall the essential and critical mathematical formulae and information for each topic.

Free Online Activities
Go online to try the fun activities. Refer to the Contents page to access them.

Topical Exercises
Work on these questions as you learn and become familiar with various question types.

Revision Papers
Test yourself. This is the best way to assess your understanding of the topics taught and learnt.

Non-routine Questions
Understand the heuristics better. Try these non-routine questions to develop your thinking and analytical skills.

Step-by-step Solutions
Learn from the carefully worked out solutions included at the back of the book.

Through this comprehensive workbook, students can gain a thorough understanding of the mathematical concepts, hone their problem-solving skills and develop creative and critical thinking skills. This book will inspire confidence as the student progresses.

Tina Myung
Dip. Ed.

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❷ Click on the title of the book.
❸ Key in the 13-digit ISBN of this book (found on back cover).



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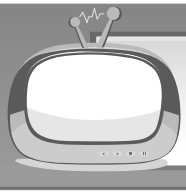
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LEARNING OUTCOMES

Unit 1 Numbers within 1000
Students should be able to
- recognise and write numbers within 1000 in numerals and words
- identify the place value of numbers within 1000
- compare and arrange numbers within 1000
- complete number patterns

Unit 2 Adding and Subtracting Numbers within 1000
Students should be able to
- add and subtract numbers within 1000 by regrouping ones, tens or hundreds
- solve one-step word problems related to addition and subtraction

Revision 1
This revision paper tests a student's understanding of Units 1 & 2.

Unit 3 Fun with Models (Adding and Subtracting)
Students should be able to
- draw models involving addition and subtraction of two numbers
- draw models involving addition of three numbers

Unit 4 Multiplying and Dividing
Students should be able to
- multiply numbers by 2, 3, 4, 5 and 10
- divide numbers by 2, 3, 4, 5 and 10

Revision 2
This revision paper tests a student's understanding of Units 3 & 4.

Unit 5 Multiplying and Dividing Numbers by 2 and 3
Students should be able to
- multiply and divide numbers within multiplication table of 2
- multiply and divide numbers within multiplication table of 3

Unit 6 Multiplying and Dividing Numbers by 4, 5 and 10
Students should be able to
- multiply numbers by 4, 5 and 10
- divide number by 4, 5 and 10
- solve one-step multiplication and division word problems

Unit 7 Fun with Models (Multiplying and Dividing)
Students should be able to
- draw models involving multiplication and division

Revision 3
This revision paper tests a student's understanding of Units 5, 6 & 7.

Unit 8 Length
Students should be able to
- measure objects in metres and centimetres
- compare items of different lengths
- add, subtract, multiply and divide different lengths
- solve one-step word problems related to length

Unit 9 Mass
Students should be able to
- measure items in kilograms and grams
- compare items of different masses in grams
- add, subtract, multiply and divide different masses
- solve one-step word problems related to mass

Revision 4
This revision paper tests a student's understanding of Units 8 & 9.

Final Revision
This revision paper is an excellent assessment of a student's understanding of all the topics in this book.

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FORMULAE SHEET

Unit 1 Numbers within 1000

Numbers can be written in words in this manner.
Example: Write 549 in words.
five hundred and forty-nine

Place value

We can find the value of a digit based on its place value in the number.
Examples: In 637,
the digit **7** is in the **ones** place,
the digit **3** is in the **tens** place and
the digit **6** is in the **hundreds** place.

Comparing numbers

We can use the place value starting with hundreds to compare two numbers.

- When one number is bigger than the other, use the words **greater than** to describe it.
- When one number is less than the other, use the words **smaller than** to describe it.

Order and Pattern

When arranging a set of numbers in order,

- take note if the order must begin with the greatest or the smallest,
- compare the place value of the numbers,
- arrange these numbers in the correct order.

For number pattern,

- take note if the number pattern is in an increasing or a decreasing order,
- find the difference between two consecutive numbers,
- apply the difference to find the unknown number.

Unit 2 Adding and Subtracting Numbers within 1000

Adding without regrouping

- Add the digits in the ones place first.
- Add the digits in the tens place.
- Add the digits in the hundreds place.

Adding with regrouping

- Add the digits in the ones place first. Regroup the ones if there are more than 10 ones.
- Add the digits in the tens place. Add another ten if there is a regrouping of ones. Regroup the tens if there are more than 10 tens.
- Add the digits in the hundreds place. Add another hundred if there is a regrouping of tens.

Subtracting without regrouping

- Subtract the digits in the ones place first.
- Subtract the digits in the tens place.
- Subtract the digits in the hundreds place.

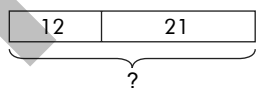
Subtracting with regrouping

- Subtract the digits in the ones place first. If this is not possible, regroup the tens and ones.
- Subtract the digits in the tens place. If this is not possible, regroup the hundreds and tens.
- Subtract the digits in the hundreds place.

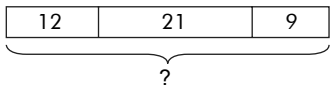
Unit 3 Fun with Models (Adding and Subtracting)

Models are pictorial representations of mathematical problems. We can understand the mathematical problems better by looking at the models. We are then able to apply suitable problem-solving methods to find the answers.

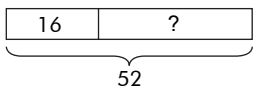
An example of a model involving simple addition.



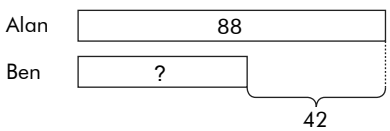
An example of a model involving addition of 3 items.



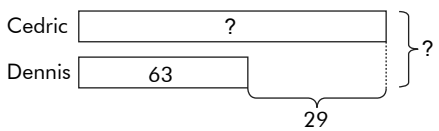
An example of a model involving simple subtraction.



An example of a model involving comparing.



An example of a model in a two-part word problem.



Unit 4 Multiplying and Dividing

Multiplication is also known as repeated addition.
Keywords: times, multiply or product
For example, when 4 is multiplied 5 times, we can also add the number, 4, for 5 times.

SAMPLE

4	×	5	=	20
(number)		(number of times)		(result)

Division is the opposite of multiplication.

Keywords: equal, equally or divide

The sign '÷' is used to represent division in a number sentence.

Examples: $20 \div 4 = 5$ or $20 \div 5 = 4$

Unit 5 Multiplying and Dividing Numbers by 2 and 3

Below are the multiplication tables of 2 and 3.

×	2	3
1	2	3
2	4	6
3	6	9
4	8	12
5	10	15
6	12	18
7	14	21
8	16	24
9	18	27
10	20	30
11	22	33
12	24	36

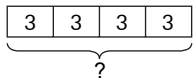
Unit 6 Multiplying and Dividing Numbers by 4, 5 and 10

Below are the multiplication tables of 4, 5 and 10.

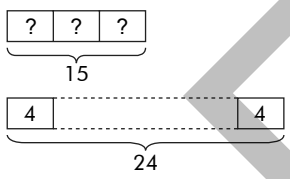
×	4	5	10
1	4	5	10
2	8	10	20
3	12	15	30
4	16	20	40
5	20	25	50
6	24	30	60
7	28	35	70
8	32	40	80
9	36	45	90
10	40	50	100
11	44	55	110
12	48	60	120

Unit 7 Fun with Models (Multiplying and Dividing)

An example of a model involving simple multiplication.



Examples of a model involving simple division.



Unit 8 Length

Length is defined as how long or short an object is. Height is defined as how tall or short an object is.

Units of measurement are metres (m) and centimetres (cm).

When measuring length of an object with a ruler, we always place the object starting at the zero marking on the ruler.
If the starting point of the object is not at the zero marking, we have to subtract the markings on both ends of the object to find the actual length of the object.

Four operations of length
When adding, subtracting, multiplying and dividing lengths, we have to make sure that they are in the same unit of measurement.

Unit 9 Mass

Mass is defined as how heavy or light an object is.

Units of measurement are kilograms (kg) and grams (g).

Comparing mass of two objects
When two objects have the same mass, use the words **as heavy as**.
When the mass of one object is heavier than that of the other object, use the words **more than**.
When the mass of one object is lighter than that of the other object, use the words **less than**.

Reading the mass of an object using a weighing machine
When the object is placed on a weighing machine, the needle will move and point to a reading.
That reading is the mass of the object. Note the units of measurement on the weighing machine. It can be in kilograms or grams.

Four operations of mass
When adding, subtracting, multiplying and dividing masses, we have to make sure that they are in the same unit of measurement.

SAMPLE

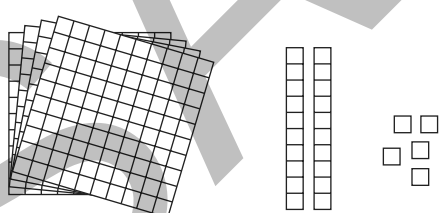
SAMPLE

1 NUMBERS WITHIN 1000

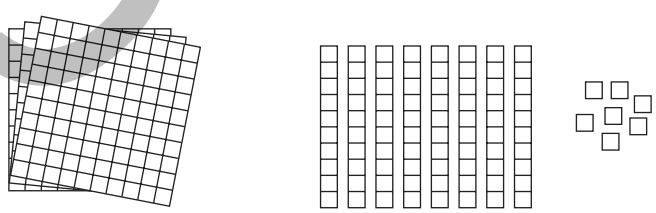
Examples

1. Write 909 in words. **nine hundred and nine**
2. In 285, which digit is in the tens place? **8**
3. In 704, in which place is the digit 4? **ones**
4. Fill in the blank with 'greater' or 'smaller'.
   530 is _____ than 503. **greater**
5. 50 less than 955 is _____. **905**
6. Fill in the missing numbers in the number pattern.
   410, 430, _____, _____, 490, 510 **450, 470**

Count and write the correct numbers on the lines provided.

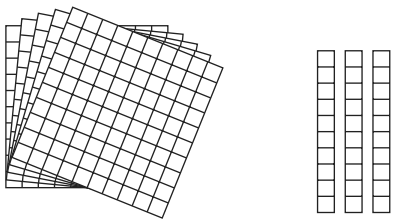
1. 

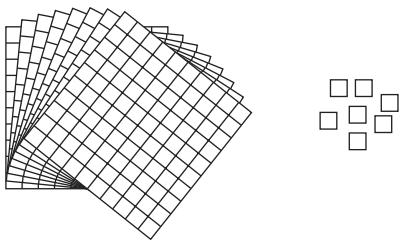
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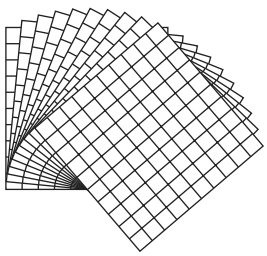
2. 

_____

SAMPLE

3. 

4. 

5. 

Write the following numbers in words.

6. 760 _____

7. 378 _____

8. 456 _____

9. 202 _____

10. 1000 _____

Write the numbers on the lines provided.

11. five hundred and sixty-two _____

12. seven hundred and seventy-nine _____

SAMPLE

13. one hundred and ten _____

14. three hundred and fifty-eight _____

15. nine hundred and seven _____

Fill in each blank with the correct answer.

16. 825 = _____ hundreds _____ tens _____ ones

17. 630 = _____ hundreds _____ tens _____ ones

18. 705 = _____ hundreds _____ tens _____ ones

19. 459 = _____ hundreds _____ tens _____ ones

20. 1000 = _____ hundreds _____ tens _____ ones

21. In 671, the digit 7 is in the _____ place.

22. In 415, the digit 4 is in the _____ place.

23. In 567, the digit 5 is in the _____ place.

24. In 928, the digit _____ is in the hundreds place.

25. In 873, the digit _____ is in the ones place.

26. In 609, the digit _____ is in the tens place.

Fill in each blank with 'smaller' or 'greater'.

27. 400 is _____ than 40.

28. 926 is _____ than 962.

29. 370 is _____ than 730.

SAMPLE

30. 805 is _____ than 580.

31. 235 is _____ than 352.

Arrange these numbers in order. Begin with the smallest.

32. 397 379 973 937

_____

33. 192 129 319 219

_____

34. 715 571 751 511

_____

35. 163 116 316 313

_____

36. 404 434 443 344

_____

Arrange these numbers in order. Begin with the greatest.

37. 570 705 507 750

_____

38. 314 413 134 341

_____

SAMPLE

39. 289 960 187 517 608

_____

40. 320 190 857 220 456

_____

41. 927 279 727 970 290

_____

Fill in each blank with the correct answer.

42. 10 more than 560 is _____.

43. 20 less than 680 is _____.

44. _____ is 100 more than 778.

45. _____ is 200 less than 695.

46. _____ is 5 less than 279.

Complete the number patterns.

47. 280, 290, _____, _____, 320

48. 970, 870, 770, _____, _____

49. 760, _____, 800, 820, _____

50. 430, 460, _____, _____, 550

51. _____, _____, 650, 750, 850

SAMPLE

SOLUTIONS
Learning Maths 2A

Unit 1: Numbers within 1000

1. 4 hundreds 2 tens 5 ones = **425**
2. 3 hundreds 8 tens 7 ones = **387**
3. 5 hundreds 3 tens = **530**
4. 8 hundreds 7 ones = **807**
5. 10 hundreds = **1000**
6. **seven hundred and sixty**
7. **three hundred and seventy-eight**
8. **four hundred and fifty-six**
9. **two hundred and two**
10. **one thousand**
11. **562**
12. **779**
13. **110**
14. **358**
15. **907**
16. **8**, **2**, **5**
17. **6**, **3**, **0**
18. **7**, **0**, **5**
19. **4**, **5**, **9**
20. **10**, **0**, **0**
21. **tens**
22. **hundreds**
23. **hundreds**
24. **9**
25. **3**
26. **0**
27. **greater**
28. **smaller**
29. **smaller**
30. **greater**
31. **smaller**
32. **379**, **397**, **937**, **973**
33. **129**, **192**, **219**, **319**
34. **511**, **571**, **715**, **751**
35. **116**, **163**, **313**, **316**
36. **344**, **404**, **434**, **443**
37. **750**, **705**, **570**, **507**
38. **413**, **341**, **314**, **134**
39. **960**, **608**, **517**, **289**, **187**
40. **857**, **456**, **320**, **220**, **190**
41. **970**, **927**, **727**, **290**, **279**
42. 10 + 560 = **570**
43. 680 – 20 = **660**
44. 100 + 778 = **878**
45. 695 – 200 = **495**
46. 279 – 5 = **274**
47. **300**, **310**
    290 – 280 = 10
    290 + 10 = 300
    300 + 10 = 310
48. **670**, **570**
    970 – 870 = 100
    770 – 100 = 670
    670 – 100 = 570
49. **780**, **840**
    820 – 800 = 20
    760 + 20 = 780
    820 + 20 = 840
50. **490**, **520**
    460 – 430 = 30
    460 + 30 = 490
    490 + 30 = 520
51. **450**, **550**
    750 – 650 = 100
    650 – 100 = 550
    550 – 100 = 450

Unit 2: Adding and Subtracting Numbers within 1000

1. 143 + 214 = **357**
2. 312 + 481 = **793**
3. 732 + 145 = **877**
4. 201 + 283 = **484**
5. 821 + 163 = **984**
6. 569 – 234 = **335**
7. 932 – 121 = **811**
8. 736 – 204 = **532**
9. 375 – 152 = **223**
10. 859 – 607 = **252**
11. 135 + 109 = **244**
12. 505 + 295 = **800**
13. 737 + 129 = **866**
14. 256 + 380 = **636**
15. 462 + 208 = **670**
16. 397 + 546 = **943**
17. 353 – 174 = **179**
18. 971 – 369 = **602**
19. 400 – 205 = **195**
20. 832 – 171 = **461**
21. 412 – 124 = **288**
22. 500 – 178 = **322**
23. 800 – 280 = **520**
24. 980 – 555 = **425**
25. 532 – 592 – 368 = **224**
    999 – 446 + 369 = **815**
    224 – 1000 – 468 = **532**
    697 – 319 + 680 = **999**
    815 – 856 – 159 = **697**

26.

73	+	42	=	115
–		+		–
70	–	30	=	40
=		=		=
3	+	72	=	75

27.

231	+	124	=	355
–		+		–
115	–	96	=	19
=		=		=
116	+	220	=	336

28. Anne: ?; Sally: 389; 317
    389 + 317 = **706**

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