

MathSmart
Guide
Contents

Curriculum Overview	4
Chapter 1: Whole Numbers to 1 000 000	6
1.1 Writing Numbers to 1 000 000	7
1.2 Comparing and Ordering Whole Numbers	10
1.3 Prime and Composite Numbers	13
1.4 Order of Operations	16
1.5 Multiplying by Two-digit Numbers	20
1.6 Dividing by Two-digit Numbers	24
Chapter 2: Decimal Numbers to Thousandths	28
2.1 Writing Decimal Numbers	29
2.2 Comparing and Ordering Decimal Numbers	32
2.3 Adding and Subtracting Decimal Numbers	36
2.4 Multiplying Decimal Numbers	40
2.5 Dividing Decimal Numbers	44
Chapter 3: Fractions and Percents	48
3.1 Comparing and Ordering Fractions	49
3.2 Percents	52
3.3 Fractions, Decimals, and Percents	55
Chapter 4: Ratios and Rates	60
4.1 Ratios	61
4.2 Rates	64
Chapter 5: Measurement	68
5.1 Area of Rectangles	69
5.2 Area of Parallelograms	72
5.3 Area of Triangles	74
5.4 Mass and Capacity	76
5.5 Volume and Surface Area	79

Chapter 6: Geometry	84
6.1 Geometric Properties of Quadrilaterals	85
6.2 Line of Symmetry and Rotational Symmetry	88
6.3 Measuring and Constructing Angles	91
6.4 Constructing Polygons	95
6.5 Different Views of Solids	99
Chapter 7: Locations and Movements	102
7.1 Coordinates on a Cartesian Coordinate Plane	103
7.2 Describing Rotations	106
7.3 Creating Tiling Patterns Using Transformations	109
Chapter 8: Patterning	112
8.1 Identifying, Extending, and Creating Patterns	113
8.2 Graphing Patterns	118
Chapter 9: Equations	122
9.1 Solving Equations	123
9.2 Formulating Equations	127
Chapter 10: Data Management	130
10.1 Mean, Median, and Mode	131
10.2 Interpreting Graphs	134
10.3 Making Graphs	139
Chapter 11: Probability	144
11.1 Finding Probability	145
11.3 Predicting the Frequency of an Outcome	148
Answers	151

Chapter 1

Whole Numbers to 1 000 000

Topics to be covered
in this chapter:

1.1 Writing Numbers to 1 000 000

e.g. 790 050 is seven hundred
ninety thousand fifty.

1.2 Comparing and Ordering Whole Numbers

e.g. $789\,500 < 798\,050 < 798\,500$

1.3 Prime and Composite Numbers

e.g. The first 10 primes are 2, 3, 5,
7, 11, 13, 17, 19, 23, and 29.

1.4 Order of Operations

e.g. $5 + 3 \times 2 = 5 + 6 = 11$

1.5 Multiplying by Two-digit Numbers

e.g. $245 \times 28 = 6860$



Number of Oranges: $5 + 3 \times 2 = 11$

1.6 Dividing by Two-digit Numbers

e.g. $1812 \div 12 = 151$

1.1

Writing Numbers to 1 000 000

Write each number in the place value chart. Then use it to help you write the numbers in expanded form and in words.

1. 643 492

Expanded
Form

600 000 + _____

Words

Place Value Chart

Thousands					
Hundred	Ten	One	Hundreds	Tens	Ones

2. 503 827

Expanded
Form

Words

3.

514 092

Expanded
Form

Words



Write the numbers in numerals.

4. two hundred seventy thousand _____

5. $700\ 000 + 20\ 000 + 3000 + 40 + 6$ _____

6. seventy thousand three hundred sixty-three _____



7. $200\ 000 + 60\ 000 + 200$ _____

8. three hundred thousand five _____

Write the values of the coloured digits.

9. **4**05 371 _____

10. 923 **5**82 _____

11. 625 4**3**9 _____

12. 243 39**0** _____

13. 64**7** 895 _____

14. 895 4**3**1 _____

15. 4**5**8 362 _____

16. 24**8** 467 _____

Check the numbers that each sentence is describing.

17. The "5" has a value of 5000.

- ☐ 950 000
- ☐ 645 073
- ☐ 368 500
- ☐ 585 342

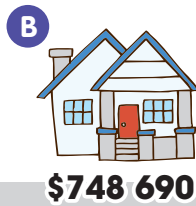
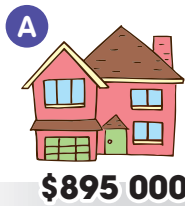
18. The "2" has a value of 2 ten thousands.

- ☐ 626 451
- ☐ 304 378
- ☐ 125 800
- ☐ 504 329



Solve the problems. Show your work.

19. Write the prices of the houses in words.



A _____

B _____

C _____

D _____

20.

The house that I'm selling has a "9" in the hundred thousands place.
Write its price in expanded form.

House : _____



Application

②1 Using the digits 6, 7, 3, and three zeros, find all the possible 6-digit odd numbers.

