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Name: _____ Class: _____ Date: _____

PRIMARY 5 · FOUNDATION MATHEMATICS · NUMBERS UP TO 10 MILLION

Numbers up to 10 Million

Theory and worked examples

Place Value up to 10 Million

10 groups of 100 000 make 1 000 000 (one million). 10 groups of 1 000 000 make 10 000 000 (ten million). Each digit of a number sits in a place. The place value chart shows the places. We write a big number in groups of three digits from the right, with a small space between the groups, like 3 482 605.

KEY IDEA

Each place is worth 10 times the place on its right.

WORDS TO KNOW

one million	1 000 000, the same as 10 groups of 100 000
ten million	10 000 000, the same as 10 groups of 1 000 000
place value chart	a chart with a column for each place: M, HTh, TTh, Th, H, T, O

Millions (M)	Hundred thousands (HTh)	Ten thousands (TTh)	Thousands (Th)	Hundreds (H)	Tens (T)	Ones (O)
3	4	8	2	6	0	5

WORKED EXAMPLE

Look at 3 482 605 in the place value chart. Say what each digit stands for.

1. 3 is in the millions place: 3 millions = 3 000 000
2. 4 is in the hundred thousands place: 4 hundred thousands = 400 000
3. 8 is in the ten thousands place: 8 ten thousands = 80 000
4. 2 is in the thousands place: 2 thousands = 2000
5. 6 is in the hundreds place: 6 hundreds = 600
6. 0 is in the tens place: 0 tens = 0
7. 5 is in the ones place: 5 ones = 5

3 482 605 = 3 millions, 4 hundred thousands, 8 ten thousands, 2 thousands, 6 hundreds, 0 tens and 5 ones

TRY THIS

In 5 216 047, which digit is in the hundred thousands place?

Answer: 2

The Value of a Digit

A digit is one of the symbols 0 to 9. The value of a digit is what it is worth in its place. The same digit can have a different value in a different place. We can add the values of all the digits to make the number again.

KEY IDEA

6 250 418 = 6 000 000 + 200 000 + 50 000 + 400 + 10 + 8. The digit 0 has a value of 0, so we leave it out.

Number	Digit	Place	Value
6 250 418	6	millions	6 000 000
6 250 418	5	ten thousands	50 000
1 703 592	5	hundreds	500
9 360 000	3	hundred thousands	300 000

WORKED EXAMPLE

What is the value of the digit 7 in 4 179 360?

1. Write the places under the digits from the right: 0 is ones, 6 is tens, 3 is hundreds, 9 is thousands, 7 is ten thousands.
2. The 7 is in the ten thousands place.
3. 7 ten thousands = 70 000

70 000

TRY THIS

Find the missing number: 2 805 000 = 2 000 000 + ____ + 5000

Answer: 800 000

Reading and Writing Numbers in Words

To read a big number, read it one group at a time, from the left. Read the millions group and say "million". Read the thousands group and say "thousand". Then read the last three digits. Use "and" before the tens and ones, and a hyphen in numbers like sixty-two.

- 2 000 000: two million
- 4 050 000: four million, fifty thousand
- 7 300 062: seven million, three hundred thousand and sixty-two
- 1 248 500: one million, two hundred and forty-eight thousand, five hundred

WORKED EXAMPLE

Write 2 406 315 in words.

1. Split the number into groups: 2 | 406 | 315
2. The millions group is 2: two million
3. The thousands group is 406: four hundred and six thousand
4. The last group is 315: three hundred and fifteen

two million, four hundred and six thousand, three hundred and fifteen

TRY THIS

Write 8 090 400 in words.

Answer: eight million, ninety thousand, four hundred

Writing Numbers in Numerals

To write a number from words in numerals, write each part in the place value chart. If a place has nothing in it, write 0 there. A number in the millions always has 7 digits (10 000 000 has 8 digits).

KEY IDEA

Every place must have a digit. Use 0 to hold an empty place.

M	HTh	TTh	Th	H	T	O
5	0	3	0	0	0	9

WORKED EXAMPLE

Write five million, thirty thousand and nine in numerals.

1. Five million: 5 in the millions place.
2. There are no hundred thousands: 0 in the hundred thousands place.
3. Thirty thousand: 3 in the ten thousands place, 0 in the thousands place.
4. There are no hundreds and no tens: 0 and 0.
5. Nine: 9 in the ones place.

5 030 009

TRY THIS

Write three million, six hundred thousand and forty in numerals.

Answer: 3 600 040

Comparing Numbers up to 100 000

The number with more digits is greater, so a 5-digit number is greater than a 4-digit number. If two numbers have the same number of digits, compare the digits from the left, one place at a time. The first place where the digits are different tells us which number is greater.

WORDS TO KNOW

greater than (>)	52 816 > 52 618 means 52 816 is greater
smaller than (<)	52 618 < 52 816 means 52 618 is smaller

Number	TTh	Th	H	T	O
52 816	5	2	8	1	6
52 618	5	2	6	1	8

WORKED EXAMPLE

Which is greater, 52 816 or 52 618?

1. Both numbers have 5 digits.
2. Ten thousands: both have 5. Thousands: both have 2.
3. Hundreds: 8 hundreds is more than 6 hundreds.
4. So 52 816 > 52 618.

52 816

TRY THIS

Write > or < in the blank: 40 097 ____ 40 970

Answer: < (0 hundreds is less than 9 hundreds)

Ordering Numbers

To put numbers in order, compare them place by place, as before. "From the smallest to the greatest" means the smallest number comes first. "From the greatest to the smallest" means the greatest number comes first. Count the digits first: a 4-digit number is smaller than every 5-digit number.

WORKED EXAMPLE

Arrange 71 340, 9850, 71 043 and 70 999 from the smallest to the greatest.

1. 9850 has only 4 digits, so it is the smallest.
2. The other three have 5 digits. Ten thousands: all have 7.
3. Thousands: 70 999 has 0. The others have 1. So 70 999 is next.
4. Hundreds: 71 043 has 0 and 71 340 has 3. So 71 043 < 71 340.

9850, 70 999, 71 043, 71 340

TRY THIS

Arrange from the greatest to the smallest: 36 205, 36 520, 35 620

Answer: 36 520, 36 205, 35 620

CHAPTER 1

Practice Questions

Part 2: Numbers up to 10 Million



In the practice questions

23 questions, 46 marks. Show your working in the space given and write your answer on the answer line. The answers are on page 315.

- Section A: Multiple-Choice Questions: 10 questions, 14 marks
- Section B: Short-Answer Questions: 8 questions, 16 marks
- Section C: Structured Questions: 5 questions, 16 marks

Name: _____ Class: _____ Date: _____

PRIMARY 5 · FOUNDATION MATHEMATICS · NUMBERS UP TO 10 MILLION

Numbers up to 10 Million

INSTRUCTIONS

- 23 questions, 46 marks in total.
- Answer all questions in the spaces provided.
- Show your working clearly. Marks are given for correct working.

Section A: Multiple-Choice Questions

Questions 1 to 6 carry 1 mark each. Questions 7 to 10 carry 2 marks each.
Choose the correct answer.

1 Which digit is in the ten thousands place in 4 705 382? ( ) [1]

(A) 4 (B) 7 (C) 0 (D) 5

2 What is the value of the digit 8 in 2 815 640? ( ) [1]

(A) 8 (B) 8000 (C) 80 000 (D) 800 000

3 Which of these is three million, sixty thousand and five in numerals? ( ) [1]

(A) 360 005 (B) 3 006 005 (C) 3 060 005 (D) 3 600 005

4 Which number is the greatest? ( ) [1]

(A) 45 120 (B) 45 201 (C) 45 102 (D) 45 210

5 Round off 6738 to the nearest 10. ( ) [1]

(A) 6700 (B) 6730 (C) 6740 (D) 7000

6 What is the missing number in the pattern?
2350, 2400, 2450, ____, 2550 ( ) [1]

Ⓐ 2460 Ⓑ 2475 Ⓒ 2500 Ⓓ 2505

7 Which number is 4 000 000 + 30 000 + 600 + 5? ( ) [2]

Ⓐ 4 030 605 Ⓑ 4 300 605 Ⓒ 4 003 650 Ⓓ 4 030 650

8 Which number is 3500 when it is rounded off to the nearest 100? ( ) [2]

Ⓐ 3449 Ⓑ 3462 Ⓒ 3551 Ⓓ 3600

9 Which shows the numbers in order, from the smallest to the greatest? ( ) [2]

Ⓐ 30 450, 30 540, 34 050, 3405
Ⓑ 3405, 30 450, 30 540, 34 050
Ⓒ 3405, 30 540, 30 450, 34 050
Ⓓ 34 050, 30 540, 30 450, 3405

10 Look at this number pattern.
9000, 8750, 8500, 8250, ...
What is the 6th number in the pattern? ( ) [2]

Ⓐ 7500 Ⓑ 7750 Ⓒ 8000 Ⓓ 8250

Section B: Short-Answer Questions

Questions 11 to 18 carry 2 marks each. Write your answer on the answer line.

11 Answer these questions.

(a) Write 5 030 900 in words.

Ans: _____ [1]

(b) Write two million, four hundred thousand and seventy in numerals.

Ans: _____ [1]

12 Look at the number 7 362 154.

(a) What is the value of the digit 3?

Ans: _____ [1]

(b) Which digit is in the thousands place?

Ans: _____ [1]