Worksheet - Place value to 1 000 000

Year: Year 5 · 20

Show your working.

Question 1

Question 1 – Reading and writing numbers *(Section A · Practice)*

Write each number in words, and then write the last number in figures.

a. 345,678
b. 207,059
c. 980,004
d. seven hundred and eight thousand and sixty-one

Question 2

Question 2 – Place value chart *(Section A · Practice)*

Look at the number 506,283 in the place value chart.

HTh	TTh	Th	H	T	O
5	0	6	2	8	3

a. What is the value of the digit 6?
b. What is the value of the digit 5?
c. What is the value of the digit 8?
d. Which digit is in the thousands column?
e. Write the number that is 10,000 more.

Question 3

Question 3 – Partitioning *(Section A · Practice)*

Fill in the missing numbers.

a. 482,359 = 400,000 + 80,000 + 2,000 + __ + 50 + 9
b. 735,106 = 700,000 + __ + 5,000 + 100 + 6
c. 90,420 = 90,000 + __ + 20
d. __ = 600,000 + 4,000 + 30 + 8

Question 4

Question 4 – Compare with symbols *(Section A · Practice)*

Write <, > or = in each box.

a. 456,789 ☐ 456,798
b. 120,300 ☐ 102,300
c. 999,999 ☐ 1,000,000
d. 78,450 ☐ 78,450

Question 5

Question 5 – Ordering numbers *(Section A · Practice)*

Here are five numbers: 48,025, 480,250, 48,205, 408,025, 48,250.

a. Write them in order, smallest first.
b. Write them in order, largest first.
c. Which number has a 4 worth 400,000?

Question 6

Question 6 – Rounding *(Section A · Practice)*

Round each number as shown.

a. 37,461 to the nearest 10
b. 37,461 to the nearest 100
c. 37,461 to the nearest 1,000
d. 564,338 to the nearest 10,000
e. 250,500 to the nearest 1,000

Question 7

Question 7 – Saturday football crowds *(Section B · Real-life practice)*

Four football matches were played on Saturday. The table shows how many fans watched each match.

Match	Fans
Hartley Rovers	48,250
Eastway United	51,730
City Athletic	48,520
Northgate	39,905

a. Which match had the biggest crowd? Write its attendance in words.
b. Write the four attendances in order, smallest first.
c. Round each attendance to the nearest 1,000.
d. The stadium of Eastway United holds 60,000 fans. How many seats were empty?

Question 8

Question 8 – Towns on the map *(Section B · Real-life practice)*

The map shows the number of people living in four towns.

Town	Population
Ashford Bay	123,456
Brookvale	98,760
Carlton	250,090
Dunmere	87,654

a. Which town has the smallest population?
b. Round each population to the nearest 10,000.
c. Which town has a population that rounds to 100,000 to the nearest 10,000?
d. Carlton grows by 100,000 people over the next years. What is the new population?

Question 9

Question 9 – Counting in steps *(Section B · Real-life practice)*

Otto counts the number of visitors to a museum website. Fill in the missing numbers in each sequence.

a. Counting in 10,000s: 235,000; 245,000; __ ; 265,000; __
b. Counting in 100,000s: 150,000; 250,000; __ ; 450,000; __
c. Counting backwards in 1,000s: 72,500; 71,500; __ ; 69,500; __
d. Counting in 25,000s: 0; 25,000; 50,000; __ ; __

Question 10

Question 10 – Winter temperatures *(Section B · Real-life practice)*

The table shows the temperature at 6 am in five cities on a winter morning (in °C).

City	Temperature
Reykjavik	−3°C
Oslo	−8°C
London	4°C
Moscow	−12°C
Madrid	9°C

a. Which city was the coldest?
b. Put the temperatures in order, coldest first.
c. By noon London has warmed up by 6 degrees. What is the temperature?

d. How many degrees colder is Moscow than Oslo?

Question 11

Question 11 – Roman numerals on the library clock *(Section B · Real-life practice)*

The old library in town has a clock with Roman numerals. Its book shelves are numbered in Roman numerals too.

a. Write the numbers 14, 49 and 90 in Roman numerals.
b. Write CDXLIV and MLXVI as numbers.
c. A book is labelled shelf XXVII. What number is that?
d. The library was built in the year MDCCCXC. Write the year in figures.

Question 12

Question 12 – Odometer in the garage *(Section B · Real-life practice)*

Sam looks at the odometer of his dad's car. It shows **46,382** miles. The garage says the car will need a service at every 10,000 miles.

a. What will the odometer show after 10,000 more miles?
b. What does the odometer show to the nearest 1,000 miles?
c. At which mileage is the next service, a multiple of 10,000?
d. How many more miles will the car travel before it reaches that service?

Question 13

Question 13 – Downloads of video games *(Section B · Real-life practice)*

A games company records how many times each of its four games was downloaded.

Game	Downloads
Star Racer	672,000
Moon Jump	409,500
Pixel Pets	611,250
Cave Quest	98,700

a. Which game was downloaded the most?
b. Round each number to the nearest 100,000.
c. Which game rounds to 400,000?
d. How many more downloads does the top game have than the lowest?

Question 14

Question 14 – Mia's mystery number *(Section C · Problem solving)*

Mia thinks of a six-digit number and gives Jay these clues.

- The digit in the hundred-thousands column is 3.
- The digit in the ten-thousands column is twice the digit in the hundred-thousands column.
- The thousands digit is 4 less than the ten-thousands digit.
- The hundreds digit is the same as the hundred-thousands digit.
- The tens and ones digits are both zero.

a. Write down the digit in each column, starting with the hundred-thousands.
b. Write Mia's number in figures and in words.
c. Round the number to the nearest 10,000.
d. Jay says that 10,000 more than Mia's number is 372,300. Is he right? Explain.

Question 15

Question 15 – Tickets for the summer fair *(Section C · Problem solving)*

The summer fair sells tickets online. The table shows the number of tickets sold in each of five weeks.

Week	Tickets sold
Week 1	12,480
Week 2	15,920
Week 3	9,875
Week 4	21,305
Week 5	18,650

The organisers need to sell 80,000 tickets to make a profit.

a. How many tickets were sold altogether?
b. Round the total to the nearest 10,000.
c. Did they sell enough tickets to make a profit? How many more or fewer tickets than 80,000?
d. In which week were tickets rounded to the nearest 1,000 closest to 16,000?
e. The fair repeats the sales next year and sells 100,000 more tickets in total. How many tickets will that be?

Question 16

Question 16 – Mountain heights *(Section C · Problem solving)*

The table shows the heights of five famous mountains in metres.

Mountain	Height (m)
Mont Blanc	4,808
Kilimanjaro	5,895

Mountain	Height (m)
Mount Elbrus	5,642
Matterhorn	4,478
Ben Nevis	1,345

a. Put the heights in order, tallest first.
b. Round each height to the nearest 100 metres.
c. How much taller is Kilimanjaro than Ben Nevis?
d. Mount Everest is 8,849 m high. Write this number in words and round it to the nearest 1,000 m.
e. Two mountains round to the same number of metres to the nearest 1,000. Which two are they?

Question 17

Question 17 – Number cards *(Section C · Problem solving)*

Priya has six number cards: **7, 0, 5, 9, 3, 1**. She uses all six cards each time to make a six-digit number.

a. What is the largest number she can make? Write it in words.
b. What is the smallest six-digit number she can make? (A number cannot start with 0.)
c. Make the number closest to 500,000, and explain why no number below 500,000 can be closer.
d. Round the largest number to the nearest 100,000.
e. What is the difference between the largest and the smallest number?

Question 18

Question 18 – Stadium capacities *(Section C · Problem solving)*

Four stadiums are being compared. A stadium rounds its capacity to the nearest 10,000 when it appears on a poster.

Stadium	Capacity
North Park	62,430
Riverside	58,990
Castle Ground	74,310
Park Arena	65,000

a. Write each capacity as it would appear on the poster.
b. Which capacities appear as the same number on the poster?
c. What is the smallest whole number that would appear on a poster as 70,000?
d. What is the largest whole number that would appear as 70,000?
e. Park Arena adds 5,000 seats. How does its poster number change?

Question 19

Question 19 – Temperature on the mountain *(Section C · Problem solving)*

Jo is walking up a mountain. The temperature in the car park at the bottom is 8°C. For every 1,000 metres Jo climbs, the temperature falls by about 6 degrees.

Height	Temperature
0 m	8°C
1,000 m	2°C
2,000 m	?
3,000 m	?

a. Complete the table.
b. What is the temperature at 3,000 m?
c. The summit of the mountain is at 4,000 m. How much colder is it than the car park?
d. How high is Jo when the temperature first drops below −10°C?

Question 20

Question 20 – Challenge: the biggest rounding puzzle *(Section D · Challenge)*

A number has six digits. When it is rounded to the nearest 10 it is 450,000. When it is rounded to the nearest 1,000 it is also 450,000.

a. What is the smallest number it could be? What is the largest?
b. Explain why a number that rounds to 450,000 to the nearest 10 can never be 449,000.
c. How many different whole numbers satisfy both clues? Show how you worked it out.