

WA4MNAPV1

Understanding number

Core + Challenge

Expanded Notation & Partitioning

I can partition whole numbers into their place value parts and write them in expanded notation, to at least 100,000.

Name: _____ Date: _____ Score: / 53

Key idea

Partitioning (expanded notation): split a number into the value of each digit by place, then add the parts back together. $46,823 = 40,000 + 6,000 + 800 + 20 + 3$.

If a digit is 0, its place value part is worth 0 and usually isn't written — e.g. $70,509 = 70,000 + 500 + 9$ (no hundreds or tens term).

A Fluency *practise the skill*

/16 marks

Q1, 2, 7, 8, 11, 14, 15 partition a number into place value parts. Q3, 4, 9, 10, 12, 13, 16 build a numeral from an expanded form. Q5–6 ask for the value of one digit.

1. Partition 46,823 into its place value parts (expanded form). _____
2. Partition 70,509 into its place value parts (expanded form). _____
3. Write the number equal to $50,000 + 3,000 + 400 + 10 + 2$. _____
4. Write the number equal to $20,000 + 600 + 7$.

5. What is the value of the digit 4 in 84,219?

6. What is the value of the digit 9 in 39,042?

7. Partition 91,375 into a thousands part and a units part (e.g. $91,000 + 375$). _____
8. Partition 8,204 into a thousands part and a units part.

9. Write the number equal to $60,000 + 2,000 + 90 + 5$.

10. Write the number equal to $10,000 + 400 + 3$.

11. Partition 53,000 into ten-thousands and thousands parts only. _____
12. Write the number equal to $7,000 + 50$.

13. Write the number equal to $90,000 + 9$.

14. Partition 25,680 into its place value parts (expanded form). _____
15. Partition 123,450 into its place value parts (expanded form). _____
16. Write the number equal to $100,000 + 5,000 + 60 + 7$.

B Core *apply the skill to problems*

/21 marks

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1

A charity's fundraising total is made up of 3 ten-thousands, 8 thousands, 0 hundreds, 5 tens and 6 units. Write this amount in expanded form, then as a standard numeral.

[3 marks]

Answer: _____

2

One number is partitioned as $40,000 + 7,000 + 300 + 9$. A second number is partitioned as $20,000 + 5,000 + 600 + 90 + 1$. Write each number as a numeral, then find their sum.

[4 marks]

Answer: _____

3

Write 56,004 in expanded form. Explain why no 'hundreds' or 'tens' part is written.

[3 marks]

Answer: _____

4

A library's two branches hold a combined total of $60,000 + 3,000 + 200 + 40 + 5$ books. Branch A holds 38,000 of these. How many books does Branch B hold?

[4 marks]

Answer: _____

5

Partition 204,517 into its place value parts, then write the number in words.

[3 marks]

Answer: _____

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6

Jamie says the expanded form of 70,062 is $70,000 + 600 + 2$. Explain Jamie's mistake and write the correct expanded form.

[4 marks]

Answer: _____

C

Reasoning *explain, justify and check*

/9 marks

1

Explain why $5,000 + 300 + 20 + 4$ and 5,324 represent the same number.

[2 marks]

2

Priya partitions 60,500 as $60,000 + 500$. Mia says Priya's partition is missing parts for the tens and units. Who is correct? Explain.

[2 marks]

3

A 5-digit number has non-zero digits in the ten-thousands and units places only. Write an expanded form that could match this description.

[2 marks]

4

Explain, using place value, why swapping the first two digits of 47,382 to make 74,382 changes the number by much more than 'swapping two digits' suggests.

[3 marks]

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D

Challenge *multi-step and problem-solving***/7 marks****1**

Using the digits 3, 0, 6, 1, 9 once each, build the largest possible 5-digit number, then write it in expanded form.

[2 marks]**Answer:** _____**2**

A number's expanded form has exactly 3 non-zero parts and the number equals 52,006. Write the expanded form using only its non-zero parts, and explain how you know it has exactly 3.

[2 marks]**Answer:** _____**3**

Two numbers are partitioned as $A = 30,000 + 4,000 + 500 + 60 + 7$ and $B = 20,000 + 9,000 + 400 + 30 + 2$. Write A and B as numerals, state which is larger, and find the difference between them.

[3 marks]**Answer:** _____**How did I go?**Fluency ____/16 Core ____/21 Reasoning ____/9 Challenge ____/7 **Total ____/53**

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