

WA4MNADI1

Calculating with number

Core + Challenge

Mental Division Strategies

I can use partitioning to divide numbers mentally.

Name: _____ Date: _____ Score: / 53

Key idea

Partitioning to divide: split the dividend into two 'friendly' parts that are each easy to divide, then add the results.

E.g. $96 \div 4$: split 96 into $80 + 16$, then $(80 \div 4) + (16 \div 4) = 20 + 4 = 24$.

A Fluency *practise the skill*

/16 marks

Use a partitioning strategy to find each answer mentally.

1. $84 \div 4$ _____

2. $96 \div 3$ _____

3. $72 \div 6$ _____

4. $65 \div 5$ _____

5. $76 \div 4$ _____

6. $91 \div 7$ _____

7. $54 \div 3$ _____

8. $88 \div 8$ _____

9. $63 \div 9$ _____

10. $57 \div 3$ _____

11. $68 \div 4$ _____

12. $95 \div 5$ _____

13. $78 \div 6$ _____

14. $56 \div 4$ _____

15. $99 \div 9$ _____

16. $84 \div 6$ _____

B Core *apply the skill to problems*

/21 marks

1

A charity shares \$96 equally among 4 volunteers. How much does each volunteer get?

[3 marks]

2

A school has 84 students split evenly into 4 classes. (a) How many students are in each class? (b) A new intake of 96 students arrives and is also split evenly into the 4 classes. How many students are in each class now, in total?

[4 marks]

Answer: _____

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Answer: _____

3

72 students are divided into 6 equal groups for an excursion. How many students are in each group?

[3 marks]

Answer: _____

4

A fruit shop packs 95 oranges into 5 equal boxes. (a) How many oranges are in each box? (b) If 3 boxes are sold, how many oranges have been sold in total?

[4 marks]

Answer: _____

5

A charity collects \$78 and shares it equally among 6 families. How much does each family receive?

[3 marks]

Answer: _____

6

A bakery bakes 88 muffins and packs them into boxes of 8. (a) How many boxes are needed? (b) If each box sells for \$6, how much money is made from selling all the boxes?

[4 marks]

Answer: _____

C

Reasoning *explain, justify and check***/9 marks**

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1

Explain how splitting (partitioning) a number into two friendly parts can make mental division easier, using $96 \div 4$ as an example.

[2 marks]

2

A student divides 84 by 4 by splitting 84 into $80 + 4$, working out $80 \div 4 = 20$ and $4 \div 4 = 1$, then adding to get 21. Explain why this method gives the correct answer.

[2 marks]

3

Explain why it helps to choose 'friendly' parts (numbers that divide evenly) when partitioning for division.

[2 marks]

4

A student says that any 2-digit number can always be split into two parts that both divide evenly by a given 1-digit divisor. Is this true? Explain, using $71 \div 4$ as an example.

[3 marks]

D

Challenge *multi-step and problem-solving*

/7 marks

1

A number divided by 6 gives 14. What is the number?

[2 marks]

Answer: _____

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2

A 2-digit number divides evenly by both 4 and 6. Find two such numbers between 10 and 99.

[2 marks]

Answer: _____

3

A number, when divided by 7, gives the same answer as 96 divided by 8. What is the number?

[3 marks]

Answer: _____

How did I go?

Fluency ___/16 Core ___/21 Reasoning ___/9 Challenge ___/7 **Total ___/53**

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