

Max's Mental Maths Masterclass: A Year 5 Assessment

Learning objective: To demonstrate fluency in mental calculation strategies, including addition, subtraction, multiplication, and division with larger integers and decimals.

Read each question carefully. Max the monkey believes every problem has a clever shortcut—can you find yours? Show your working out where possible. You have 30 minutes to complete this assessment.

Max is organising the BookFlik library's annual charity bazaar. He needs to calculate ticket sales, manage the snack stall budget, and count the inventory of books to ensure everything is ready for his friends.

Word bank: partitioning · inverse · commutative · place value · estimate · remainder · decimal point · factor

1. Max has 450 bookmarks. He gives 125 to Pip and 135 to Zara. How many bookmarks does Max have left? Show your method. (2 marks)

2. Calculate $4.5 + 3.7$ mentally. Explain the strategy you used to bridge across the whole number. (2 marks)

3. If one ticket to the bazaar costs £2.50, how much would it cost for a group of 8 friends to attend? (2 marks)

4. Max has 144 pages of poetry to share equally between 12 friends. How many pages does each friend receive? Is there a remainder? (2 marks)

5. Multiply 67 by 9 mentally. Hint: Use your knowledge of multiplying by 10 and subtracting the difference. (2 marks)

6. Compare and contrast the methods of 'partitioning' and 'rounding to estimate'. Why is it vital to estimate before performing a complex calculation? (4 marks)

7. Justify your answer: If you subtract 0.8 from 5.0, will the answer be greater or smaller than 4.0? Explain the place value shift that occurs. (4 marks)

8. Max has a budget of £50.00. He spends £12.45 on fruit and £15.60 on decorations. He wants to buy books costing £3.50 each. What is the maximum number of books he can afford? Justify your answer with a step-by-step calculation. (6 marks)

Draw: Draw a diagram showing how you would partition the number 846 into hundreds, tens, and ones to help you divide it by 6.

Extension challenge: Imagine you are the treasurer for the bazaar. Write a short report (approx. 100 words) explaining how you would use mental maths to check if the total money collected at the end of the day is correct, and what you would do if the total did not match your expected figures. Total: /25