

Max's Mathematical Marathon: Long Division Challenge

Learning objective: To develop fluency and reasoning in formal long division methods with up to four-digit numbers divided by two-digit numbers.

Max the monkey is preparing for a jungle expedition and needs your help to divide his supplies fairly. Use your formal long division skills to solve these problems. Show your working out clearly in the space provided.

Answer Key: 1) C (24), 2) True, 3) 15, 4) B (32), 5) False, 6) 24, 7) A (41), 8) 12, 9) 37, 10) 45. Reasoning: A remainder must always be smaller than the divisor. If the remainder is larger, the quotient is too low.

Word bank: dividend · divisor · quotient · remainder · partition · estimate · calculation · factor

1. Max has 312 bananas to share equally among 13 monkeys. How many bananas does each monkey receive? A) 22, B) 23, C) 24*, D) 26 (1 mark)

2. True or False: When dividing 576 by 12, the first step is to see how many times 12 goes into 57. (1 mark)

3. Calculate $375 \div 25$. (One-word answer) (1 mark)

4. If you divide 768 by 24, what is the quotient? A) 31, B) 32*, C) 33, D) 34 (1 mark)

5. True or False: In the calculation $450 \div 15$, the remainder is 5. (1 mark)

6. Max has £576 to buy packs of stickers costing £24 each. How many packs can he buy? (One-word answer) (1 mark)

7. Which calculation results in 41? A) $902 \div 22^*$, B) $880 \div 20$, C) $943 \div 23$, D) $780 \div 20$ (1 mark)

8. What is 384 divided by 32? (One-word answer) (1 mark)

9. If a farmer packs 888 apples into crates of 24, how many full crates are there? (1 mark)

10. Max divides 945 by 21. What is the quotient? (1 mark)

Draw: Draw Max the monkey sitting under a banyan tree, surrounded by neat piles of supplies organized into groups to show he has successfully completed his division.



Extension challenge: Explain why it is essential to estimate the quotient before beginning a formal long division calculation. Compare and contrast the methods of using short division versus long division for a 4-digit number. Justify your answer: What might happen if you forget to include a zero placeholder in a calculation like $1200 \div 12$? Create your own complex word problem involving long division that results in a remainder and challenge a partner to solve it.