

Max the Monkey's Roman Numeral Challenge

Learning objective: To demonstrate understanding of Roman Numerals up to 100, including conversion, ordering, and application in historical contexts.

Read each question carefully. Max the monkey needs your help to decode these ancient puzzles! Show your working out clearly.

Max the monkey has discovered an ancient stone tablet in the forest. It has strange symbols carved into it! Max knows these are Roman Numerals. He needs to calculate the values to help understand the history of the forest.

Word bank: I · V · X · L · C · symbol · value · descending · ascending · numeral

1. Max sees the symbols 'XXIV' on a stone. Convert this Roman Numeral into our modern Hindu-Arabic number system. (1 mark)

2. Write the following numbers as Roman Numerals: a) 49, b) 76, c) 92. (3 marks)

3. Max finds three tablets labelled: 'LXXX', 'LXXIX', and 'LXXXI'. Arrange these in ascending order. (2 marks)

4. Explain why the Roman Numeral system does not use a zero. Compare this to our current system. (3 marks)

5. Max buys a bag of tropical fruit for LXV pence and a bunch of bananas for XXVIII pence. Calculate the total cost in Roman Numerals. Show your addition working in Hindu-Arabic numbers first. (4 marks)

6. Justify your answer: Is it possible to write the number 100 using only the symbols I, V, and X? Why or why not? (3 marks)

7. What might happen if we tried to perform complex long division using only Roman Numerals? Discuss the limitations of the system for modern mathematicians. (4 marks)

8. Max wants to create a new clock face using Roman Numerals. Write a short paragraph explaining how you would place the numbers from I to XII around the circle. Include an explanation of the 'subtractive' rule (e.g., why 4 is IV and not IIII) to prove you are a master of the system. (5 marks)

Draw: Draw a circular stone clock face that uses Roman Numerals from I to XII correctly. Add a decorative border inspired by patterns found in nature.



Extension challenge: Total: /25. Challenge: Imagine a new, secret symbol was invented by Max to represent the number 500. Design your own symbol and explain how it would change the way we write numbers like 600 or 499.