

Mission: Roman Numerals! - A History & Math Adventure for Daniella and Alisia

Hello Daniella and Alisia! Today, we're time-traveling back to ancient Rome to uncover the secrets of their special number system: Roman Numerals! Get ready for a fun mix of history and math.

Part 1: Decoding the Past (History)

Imagine you are walking through the streets of ancient Rome. You'd see these special numbers everywhere! Where might you have seen them?

- On buildings, maybe telling you the year it was built.
- On sundials to tell time.
- To count legions of soldiers.
- To number chapters in scrolls (like ancient books!).

They didn't use the numbers we use today (1, 2, 3 - called Arabic numerals). They used letters! Let's learn their code.

Part 2: Cracking the Code (Math)

The Romans used seven main letters for their numbers:

- I = 1
- V = 5
- X = 10
- L = 50
- C = 100
- D = 500 (We won't use this much today)
- M = 1000 (Or this one!)

How did they make other numbers?

Rule 1: Addition! When you put a smaller numeral *after* a bigger one, you add them.

- VI = V + I = 5 + 1 = 6
- XI = X + I = 10 + 1 = 11
- XV = X + V = 10 + 5 = 15
- LX = L + X = 50 + 10 = 60
- II = I + I = 1 + 1 = 2
- XXX = X + X + X = 10 + 10 + 10 = 30

Rule 2: Subtraction! Sometimes, they put a *smaller* numeral *before* a bigger one. This means you subtract!

- IV = V - I = 5 - 1 = 4 (It's like '1 before 5')
- IX = X - I = 10 - 1 = 9 (It's like '1 before 10')
- XL = L - X = 50 - 10 = 40 ('10 before 50')
- XC = C - X = 100 - 10 = 90 ('10 before 100')

Important Note: You only subtract I, X, and C. You usually only subtract one number (e.g., you write VIII for 8, not IIX).

Part 3: Your Turn, Roman Mathematicians! (Activities)

Activity 1: Number Translation

Let's practice! Grab your paper and pencil.

1. Write these Arabic numerals as Roman numerals: 7, 12, 25, 39, 48, 50, 77, 94
2. Write these Roman numerals as Arabic numerals: III, XIII, XIX, XXIV, XXXVI, XLV, LII, LXXXIX, XCVIII

(Teacher Note: Check answers together. Discuss any tricky ones like 39 (XXXIX) or 94 (XCIV)).

Activity 2: Roman Sums!

Can you do math like a Roman? Try these!

1. $V + II = ?$ (Write the answer in Roman numerals)
2. $X - I = ?$
3. $XII + III = ?$
4. $XXV - IV = ?$

Activity 3: History Detective

The Colosseum in Rome was built a long time ago. Let's say an inscription had the date LXXVI on it. What number is that? (Answer: 76)

Can you find out what year it is *now* and try to write it in Roman numerals? (This might be tricky, using M! MMXXIV for 2024)

Part 4: Fun Challenge!

Daniella and Alisia, write your age in Roman numerals! Can you write your birth year? (You might need M and D for the year!).

Wrap-up

Great work, Roman explorers! You've learned how the Romans wrote their numbers and how it connects to their history. Remember the main symbols (I, V, X, L, C) and the addition/subtraction rules, and you'll be reading Roman numerals in no time! Keep an eye out for them on clocks, buildings, or even in movie titles (like Rocky II, Star Wars IV!).