

Roman Numeral Poker: Hilarity Did Ensue

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MAA MathFest 2017
Themed Contributed Paper Session:
My Favorite Math Circle Problem

July 28, 2017

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- 3 Observations and Recommendations
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Context of the Activity: SRU's Demographics

- Slippery Rock University (SRU) has no Math Circle activities (yet).
- 15-20 percent of all students at SRU hope to become teachers
- Includes BS math majors who want to teach grades 7-12 math after graduate-level certification program ... eager for insight
- Math Club hosted outreach event for local school children in fall 2016.

Context of the Activity: The Event

- Children from local middle school gifted program
- Not necessarily gifted in math
- On a regular school day morning
- Event consisted of two or three 30-45 minute activities plus snack
- About 20 children in all, stayed together as a group

Context of the Activity: The Event (continued)

- Math Club members organized, designed, and ran ENTIRE program
- Adapted activity from my future elementary teacher content course:
Roman Numeral Poker
- Children separated into tables of 3-4 plus one college student host

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After looking at your hand, you may trade as many cards as desired for replacements from the deck. Only you see these replacements. Only ONE such trade turn is allowed.

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- Game Play:
After looking at your hand, you may trade as many cards as desired for replacements from the deck. Only you see these replacements. Only ONE such trade turn is allowed.
- When all trades are done, everyone displays on the table the highest numeral they can create using some or all of the cards in their hand. High number wins.

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- The numeral he shows his opponents at the end is MCLI.

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- She trades away the 2 Is and the X,
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- Her new hand is M, D, D, C.
- The numeral she shows her opponents at the end is MDC.

Variation (Low Play)

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Numerals such as I alone are not allowed since they don't use all four of the player's cards.

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For low play: sometimes you lose by default.
- Problem-solving aspect to low play:
C, X, X, I has many permutations, recognizing XCIX as lowest takes skill

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- VERY helpful for groups to play 1-2 "open" hands first
- Differentiate: challenge players to create, compare, or record "tricky" hands

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- As student hosts saw need,
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- All stayed on task

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- We conclude with actual wrap-up problems and HW:
Discuss challenging hands I've observed around the room
I create much longer lists of digits and ask for highest/lowest.

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- Questions, comments, suggestions are welcome!

Thank you, attendees and organizers!