New Twists on your Favorite Math Circle Activity

Angie Hodge-Zickerman & Cindy York

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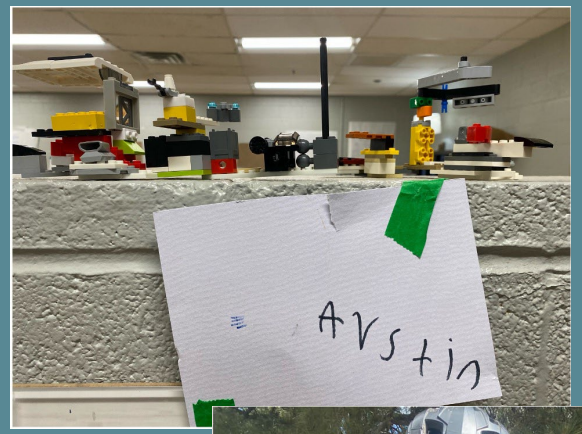

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About Cindy…

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NORTHERN ILLINOIS HUSKIES

OPENING PUZZLE

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Arrange the numbers from 1 to 15 in a row so that the sum of any two adjacent numbers is a perfect square.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

It might be helpful to write the numbers on small slips of paper that you can move around.

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FRIEDMAN NUMBERS

A Friedman number is a positive integer that can be written in some nontrivial way using its own digits together with the elementary operations (+, -, x, /, exponents, and grouping symbols).

DR. ERICH FRIEDMAN

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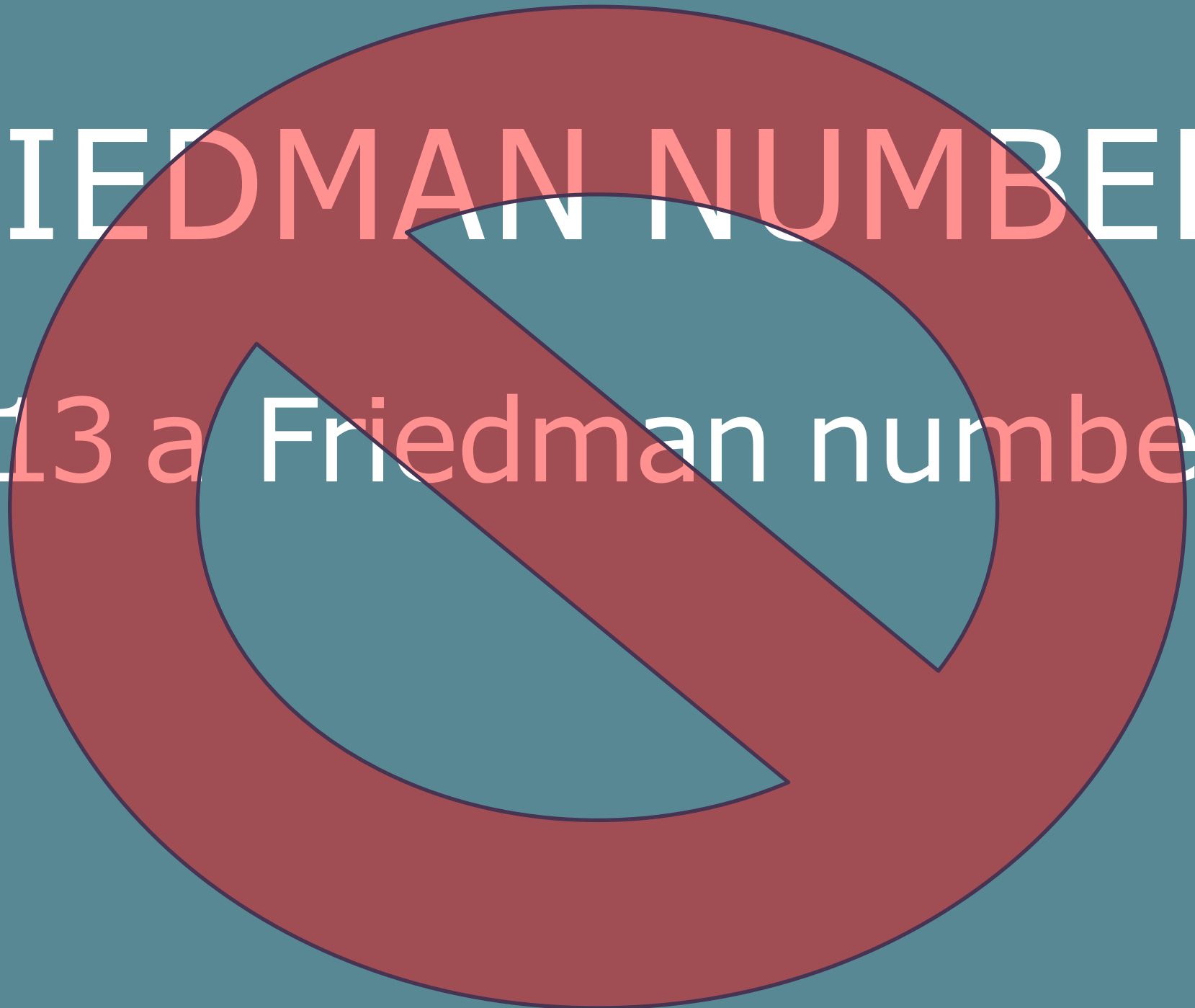
FRIEDMAN NUMBERS

Is 13 a Friedman number?



FRIEDMAN NUMBERS

There are only XXX Friedman numbers under 100.

Shhhh....

FIND XX MORE

There are XX Friedman numbers in the 1X0s. Can you find all XX?

Instead…

Shhhh….

FRIEDMAN NUMBERS

Prove that these numbers are Friedman numbers.

- 153
- 216
- 289
- 343
- 347
- 625
- 688
- 736
- 1022
- 1024

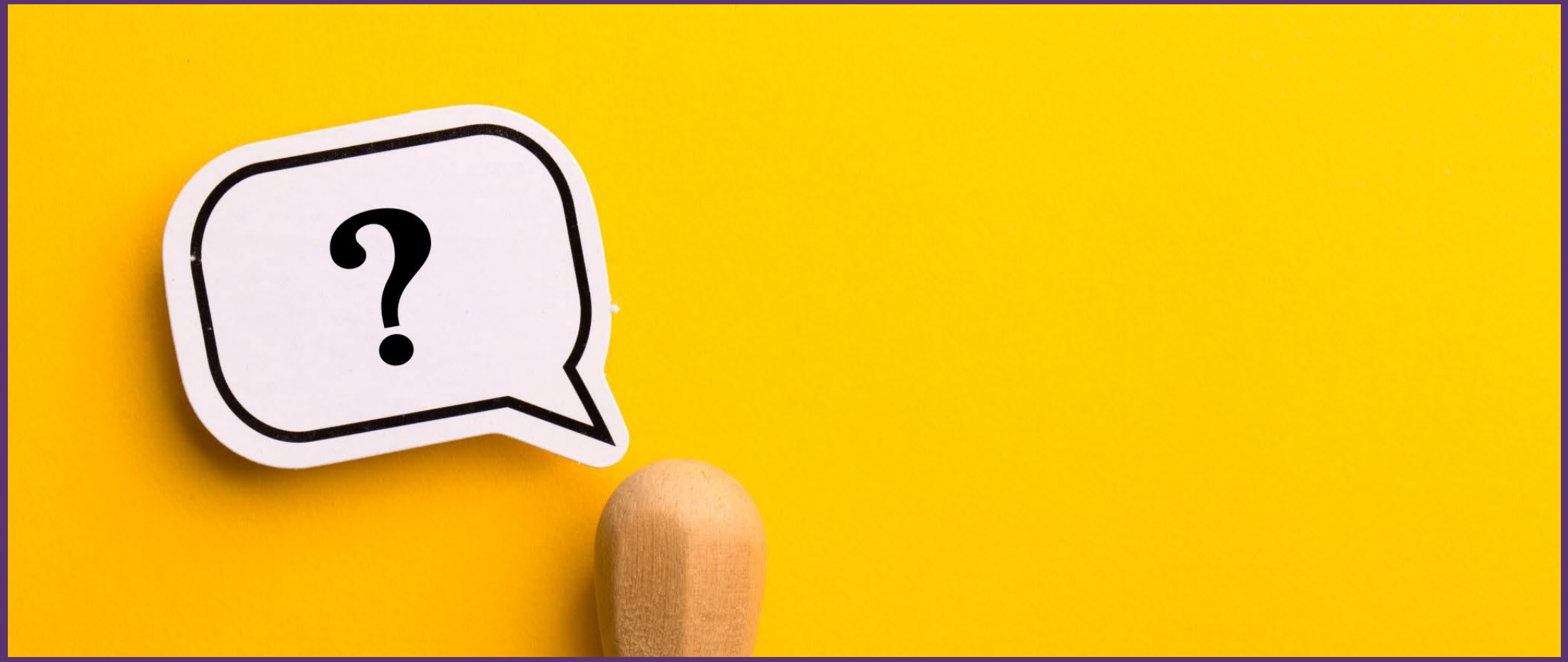
FRIEDMAN NUMBERS

- How many Friedman numbers are under 100?

- How many Friedman numbers are there in the 120's?

Show all work/thinking.

What would you do?



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SOURCES

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