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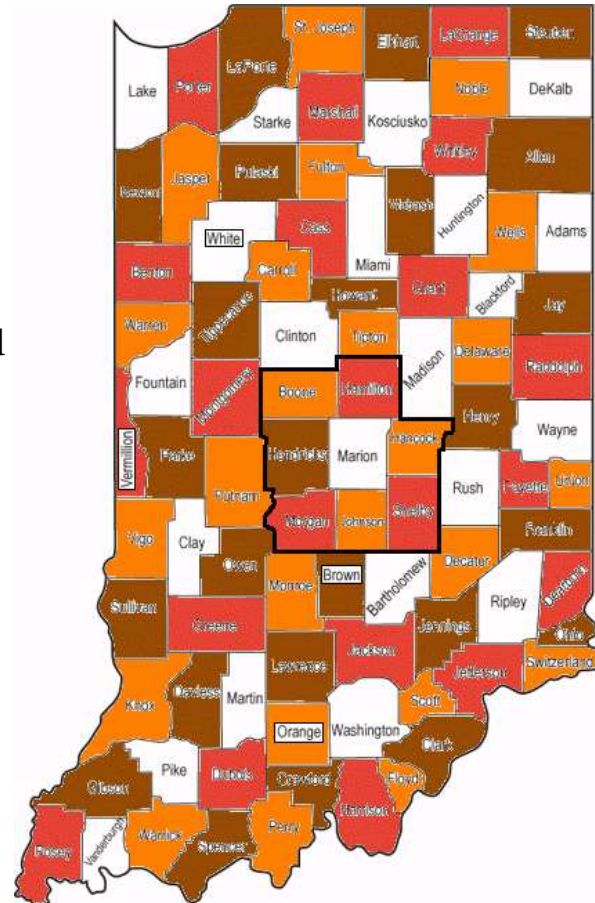
MATH CLUB TEASER #21

April 17, 2009
(due April 24, 2009)

SOLUTION

You cannot color MARION and its neighbors with only three colors: MARION takes one color, and then the chain BOONE, HAMILTON, HANCOCK, SHELBY, JOHNSON, MORGAN, HENDRICKS should alternate the other two colors. But this is an odd number of counties, so a fourth color is needed somewhere along the chain.

This shows that at least four colors are needed. The map on the right uses exactly four colors.



Note that BROWN, ORANGE, VERMILLION, and WHITE are colored brown, orange, vermilion, and white respectively (on the other hand, GREENE cannot really be colored green, which is just as well, because the map already uses four colors).

SOLVED BY:

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