## **Circuit Court**

## Authors: Tom Belulovich, Sarah Krell

The answers to the clues are:

A1: VOODOO DOLL

A2: VIOLIN SOLO

B3: THOR

A3: GOODNIGHT MOON

B3: RANDOM

B4: SORBET

A5: BOILING POINT B5: EXORBITANT
A6: IMMOBILIZING B6: GERRYMANDER

A7: WOODROW WILSON B7: WANDER

A8: ORNITHOLOGIST B8: THE EXORCIST

A9: MINT CONDITION B9: LUXOR

A10: PHILIP III B10: INCANDESCENT

A11: FOOD COLORING B11: QUORUM A12: PROHIBITION B12: SPORK

All the answers from group A have the letters I and O as their only vowels.. Each has five of these vowels, which can be used to form 5-bit strings (with I = 1, O = 0) that we may later convert to numbers. For example, MINT CONDITION  $\rightarrow$  IOIIO = 10110  $\rightarrow$  22.

All the answers from group B have, as a substring, one of the words AND, XOR, OR, corresponding to a logic gate. (While having XOR as a substring requires that OR is also a substring; XOR should always be used if it appears. the puzzle authors hope this was a reasonable inference.)

This gives the solver twelve bitstrings to input into the circuit, and twelve logic gates to process these bitstrings (these are standard logic gates, but rules for how they work were given to solvers on their Supplemental Information sheet). Determining the circuit output gives the six strings OIOOI, OIIIO, OOIOO, OIOOI, OOOII, IOIOO, which convert to the decimal values 9, 14, 4, 9, 3, 20. Alphanumerically, this gives the answer, **INDICT**.