

# Hidden Word Crossword and CONTEST

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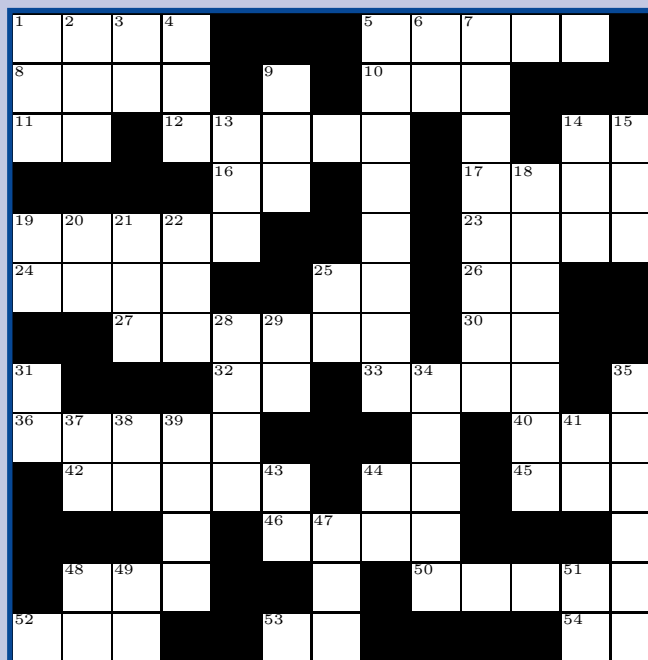
Embedded in this puzzle is a secret ten-letter word. The letters of the word are somehow indicated by the clues marked with asterisks (although the hidden word can actually be seen without answering any of the clues). Solutions can be submitted through [www.maa.org/mathhorizons](http://www.maa.org/mathhorizons) and will be considered as late as April 15, 2006.

## ACROSS

- 1 20 times 43 Down
- 5 Decode
- 8 Random number generators
- 10 37 Down minus half of 43 Down
- 11 2.54 cm
- 12 Mathematicians have the Fields Medal instead of this prize
- 14 Popular brand of calculator
- 16 Verifiable in polynomial time by a nondeterministic Turing machine
- 17 Sometimes variable decoration
- 19 Opposite of 45 Across
- \*23 (Not  $(A \Rightarrow B) \Leftrightarrow (A \text{ and Not } B)$ )?
- 24 Insertion, bubble, heap, selection ending
- \*25 Celebrated on March 14
- 26 Eighth and ninth
- 27 Opposite of “is not surjective”
- 30  $s^{-6}(\sqrt{a}s^3)^4 / as^5$
- 32 Yes
- \*33  $e^{2 \ln 3}$
- 36 Genre for 42 Across
- 40 4.184 joules, for short
- 42 Author of the *Foundation* series
- 44 Before then
- 45 How to make a knot
- 46 Geometric solid with volume  $\frac{1}{3}\pi r^2 h$
- 48  $(A \text{ or } B) \text{ and Not } (A \text{ and } B)$
- 50  $\{b \in Y \mid \exists a \in X \text{ with } f(a) = b\}$
- \*\*\*52 Type of extrema, for short
- 53 Scientific notation on some calculators
- 54 Reverse of 20 Down

## DOWN

- 1 Year that Cardano was born
- 2 See 52 Across
- 3 A dozen in roman binary



- 4 A, X, O ending
- 5 Answer
- 6 See 49 Down
- 7 Not  $\geq$
- 9 Integration technique (abbr.)
- \*13  $\gcd(42, 715)$
- 14  $\tau$
- 15 Wrath
- 18 What you can't do to an angle with only straight edge and compass
- 19 More than one of the 21st letter
- 20 Certainly not
- 21 Before angle
- 22 Possessive or contraction?
- 25 Short for point
- \*\*28 One self-inferring acronym
- 29 What certain knights say
- 31 See 38 Down
- 34 Deduce
- \*35 Number famously mentioned in *Spinal Tap*
- 37 The 26<sup>th</sup> prime, in roman
- 38 See 31 Down
- 39 Even
- 41 Fake smarts
- 43  $2(x-1)$ , where  $x = 37$  Down
- 44 Reverse of 29 Down
- 47 Poem or branch of mathematics
- 48  $\xi$
- 49 See 54 Across
- 51 Game in which the “ko” rule prevents an infinitely repeating cycle