

# AMA Manual of Style

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## Fractional Exponents vs Radicals

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Print Publication Year: 2007 Published Online: 2009

Publisher: Oxford University Press

ISBN: eISBN:

DOI: 10.1093/jama/9780195176339.022.609

Item type: section

Use of radicals may sometimes be avoided by substituting a fractional exponent:  $(a^2-b^2)^{1/2}$  instead of  $a^2-b^2$ . As with unstacking fractions, if clarity is sacrificed by making the equation fit within the text, it is preferable to set it off. For example,  $E = 1.96 \{ [P(1 - P)]/m \}^{1/2}$  fits within the text, but the centered  $E=1.96P(1-P)^m$  might be more easily understood. |

## Negative Exponents

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Print Publication Year: 2007 Published Online: 2009

Publisher: Oxford University Press

ISBN: eISBN:

DOI: 10.1093/jama/9780195176339.022.610

Item type: section

A negative exponent denotes the reciprocal of the expression, as illustrated in these examples:  $x^{-n} = 1/x^n$   $A^{-1} = 1/A$   $B^{-2} = 1/B^2$  A negative exponent may simplify some expressions within running text:  $A(x+y)^{-2}$  may also be written as  $A/(x+y)^2$  |

## Logarithmic Expressions

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Print Publication Year: 2007 Published Online: 2009

Publisher: Oxford University Press

ISBN: eISBN:

DOI: 10.1093/jama/9780195176339.022.611

Item type: section

The term log is an abbreviation of logarithm. A system of logarithms may be based on any number, although logarithmic systems based on the numbers 10, 2, and the irrational number  $e$  are most common. The base should be subscripted and follow the word log. In the following examples, note that logarithms are always computed from exponents of the number that forms their basis.  $\log_{10} 1000 = 3$  (because  $1000 = 10^3$ )  $\log_2 8 = 3$  (because  $8 = 2^3$ ) Logarithms based on  $e$  (which is approximately 2.71) are called natural logarithms and are often represented as  $\ln$ .  $\ln 2.71 = 1$