## Senior Equations ${ }^{\circledR}$ Variations

All the Junior variations for this year plus the following:
11. Imaginary | (sideways minus) shall represent the imaginary number $i$ (such that $i^{2}=-1$ ). | may be placed immediately before or after a numeral without the $x$ sign. When this variation is selected, all roots of $a^{\wedge} b$, where $a$ is a complex number and $b$ is a rational number, are available. Each Equation-writer must write $i$ in the Equation (Solution and/or Goal) for the Imaginary unit. Note: This variation may be chosen even if no - signs (or wild cubes) are in Resources.
12. Decimal in Goal Each Equation-writer may determine where decimal points occur in the Goal. Three consecutive digits may be placed in the Goal, but a decimal point must be placed in front of them, between two of them, or after the third digit in the Goal of any Equation.
13. Log $\%$ (sideways $\div$ ) represents the log operation. Thus, if $a$ and $b$ are positive real numbers $(b \neq 1), a \cdots b$ equals $\log _{b} a$.

