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Abstract: I argue that a semiotic framework enables a rich understanding of how the use of a computer algebra system (CAS) may enable, or constrain, mathematical activity. This argument is rooted in a framework in which the doing and learning of mathematics is regarded as a semiotic endeavour. Using Peirce's notion of a triadic sign (representamen, object and interpretant), I argue that the ability of the student to move between different representamen (representations) of the same mathematical object with CAS may help the student generate different interpretants (ideas in the mind) for this object. These multiple interpretants, based on multiple representamen, enable epistemological access to the object. I use Duval's distinction between conversions and treatments to distinguish between the different forms of semiotic activity with the CAS. To illustrate my arguments I examine a vignette in which two undergraduate university students use CAS while solving a mathematical problem.

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