

1106-VE-2432 **Eric W Weisstein*** (eww@wolfram.com), Wolfram Research, 100 Trade Center Drive,
Champaign, IL 61820-7237. *Using mathematical and computable data in Mathematica 10.*

Starting in Version 6, *Mathematica* has included a set of curated data collections covering mathematical, scientific, geographic, and other domains. More recently, this concept has been greatly enhanced and extended in *Mathematica 10* with the help of development work done for Wolfram|Alpha.

There are several components to the integration, the first being the extensive augmentation of the set of available data collections. An even greater step forward is the introduction of entity, entity class, property, and related built-in symbols as a means to represent and manipulate computable data in *Mathematica*. Each curated object in an available data set is assigned a domain (e.g., "PlaneCurve") and a canonical name (e.g., "Ellipse"). Using this framework, objects and their properties can be easily accessed and used directly in computations.

Mathematica 10 also provides a number of convenient ways to discover computable data, the most powerful being a revamped implementation of “free-form input.” The resulting synthesis of data representation, exposure, and access provides a powerful, flexible, and extensible framework which is practically and usefully applicable to mathematics or virtually any other domain of interest. (Received September 16, 2014)