KEP1.8XP

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This program uses Kepler's Third Law to solve for either the mass of the system, the period of the orbit, or the orbital radius given the other two. The mass must be given in kilograms, the period in Earth years, and the orbital radius in astronomical units (the average distance from the Earth to the Sun, about $1.49 \times 10^8 km$).

The equation that is to be manipulated is

$$T^2 = \frac{4\pi^2 A^3}{GM}$$

The user is first asked which of the three variables they are trying to find. They are then prompted to enter the values for the two other variables. The program runs a manipulated version of the equation solved for the missing variable, which is then displayed.