The math behind gravity and Kepler’s 3rd law

The law of gravity: _______________________________

Centrifugal force: _______________________________

Equating them yields: _______________________________

Examples:
○ What is the orbital period of Jupiter if it orbits at 5.2au?
○ What is the distance to Pluto if it orbits the Sun in 250 years?
○ What would Earth’s orbital period be if the Sun were twice as massive?

The Hallmarks of science:
○ ditch supernatural!
○ create testable models for which Occam’s razor applies!
○ test predictions, revise, abandon if faulty!

Science vs. pseudoscience

The Trial of Galileo; can science and religion co-exist?