π IN THE SKY

Pi isn't just a fancy number. It actually powers NASA spacecraft, keeps the Mars rover's wheels spinning, lets us peer beneath the clouds of Jupiter and gives us new perspectives on Earth. You might say pi is flying all over our skies. Can you solve these stellar math problems that keep NASA spacecraft doing what they do best? Hint: Pi guides the way.

The Cassini spacecraft was launched to Saturn with its 28-inch spherical hydrazine tank filled to 69 percent of its volume with hydrazine. After many years of studying Saturn, 82 kilograms of hydrazine have been used to maneuver around the ringed planet. Given the density of hydrazine is 1.02 grams/cubic centimeter, **how much fuel is remaining in the tank?**

* Assume no fuel is sitting in the fuel lines

CASSINI HYDRAZINE TANK