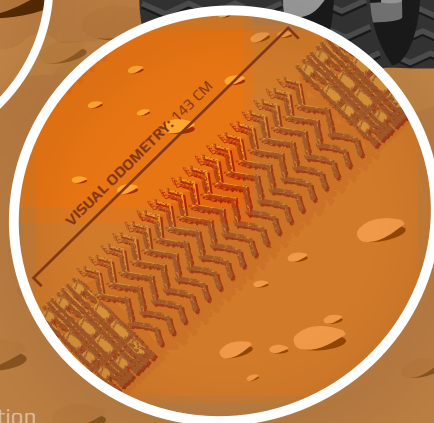
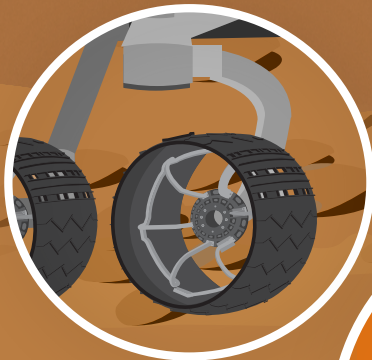




π IN THE SKY

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 Curiosity Mars rover doesn't have an odometer like those found in cars, so rover drivers calculate how far the rover has driven based on wheel rotations. Since landing on Mars in August 2012, Curiosity's 50-centimeter-diameter wheels have rotated 3689.2 times in 568 sols (Martian days). **How many kilometers has Curiosity traveled?**



Loose sand, dirt, slopes and rocks can influence the rover's progress, so engineers use a technique called visual odometry to determine how much Curiosity's wheels are slipping. On a steep slope covered in loose dirt, engineers note that the distance between the rover's visual odometry markers is only 143 centimeters. **What percent are Curiosity's wheels slipping with each rotation?**