π IN THE SKY⁴

You don't have to be a NASA rocket scientist to solve this Martian crater mystery.

All you need is a little pi!

Discover more "π in the sky" math problems at:

jpl.nasa.gov/edu/nasapidaychallenge

CRATER CURIOSITY

Craters form when an object hits the surface of a planet or other body. The impact creates a round impression surrounded by material, called ejecta, that gets blasted out of the crater. Scientists study ejecta because it contains clues about what's below a planet's surface. When an object hits Mars at an angle under 20 degrees, the crater is less circular and the ejecta settles in a butterfly shape. Some areas around the crater contain no blast material. Finding craters that formed this way can help scientists understand how meteor impacts change the surface of a planet. To do this, they measure a crater's circularity ratio. If the ratio is less than 0.925, it suggests that an object impacted at an angle under 20 degrees and created a butterfly pattern.

Use the circularity ratio formula, $\frac{4\pi A}{p^2}$, to determine which of these craters would have the butterfly ejecta pattern.

LEARN MORE ABOUT CRATERS
bit.ly/mars

UNNAMED CRATER A = 32 km
p = 21 km

AVEIRO CRATER A (area) = 67 km
p (perimeter) = 30 km