

# Another Vos Savant Thought Provoker

(Parade Magazine, June 12, 2011)

Say that I place a 25,000-mile-long metal band snugly around the earth. (Assume a smooth planet.) Then I cut the band and splice another 50 feet to it, thus loosening it all around. Can I get my finger between the new-length band and the earth? Can I crawl under it?

- Zan White, Elkins, W.Va.

Amazingly, even the tallest basketball player could walk under that band, which would float about eight feet off the ground around the planet.

The circumference of the object is irrelevant. Adding 50 feet to any size band—one that wraps around a cantaloupe or the moon—will produce the same answer: The longer band will be about eight feet from the surface of the object it circles.

- vos Savant



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# The Math Behind Vos Savant's Reply

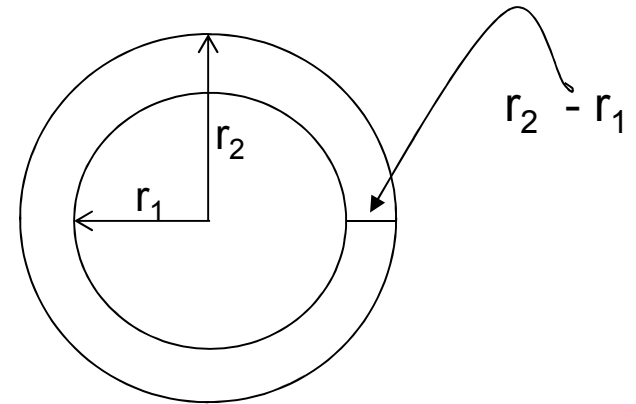
$C$  = circumference

$r$  = radius

$$C = 2 \pi r_1 \rightarrow r_1 = C/(2\pi)$$

$$C + 50 = 2 \pi r_2 \rightarrow r_2 = (C + 50)/(2\pi)$$

$$r_2 - r_1 = (C + 50)/(2\pi) - C/(2\pi) = (C + 50 - C)/(2\pi) = 50/(2\pi) = 25/\pi \approx 7.96$$



# Follow-Up to Vos Savant Thought Provoker

(Parade Magazine, November 13, 2011)

Your reply to the question about the 25,000-mile band around the earth was so counterintuitive that I thought you had lost your edge. Then I did the math and learned that you were correct. Yet the answer still seems wrong to me. My question: Why do we cling to beliefs even after seeing facts that contradict them?

- Steve Morris, Lincoln, Neb..

Because people get freaked out by the notion of being wrong about anything. It makes them feel insecure. If you can be wrong about this or that, what about all the other stuff you think you know? And the more important the subject, the more unnerving the emotion. It's not too scary to be incorrect about a math concept (sic), but how about the car you bought? Or the doctor you chose?

Your question goes to the heart of much unsound thinking. After we leave school, we tend to head down one of two roads:

- (1) We close our minds to new or different information while becoming more and more sure of ourselves; or
- (2) We watch, listen, and learn as we get older. The second road has way more bumps and curves, but it's also the path to wisdom.

- vos Savant



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