

§

Verify that the volume of the sphere with metric can is

$$Vol(S^{2n}, can) = \frac{(4\pi)^n (n-1)!}{(2n-1)!}$$

$$Vol(S^{2n+1}, can) = \frac{2\pi^{n+1}}{n!}$$

$$V(S^m) = \frac{2\pi^{\frac{m+1}{2}}}{\Gamma(\frac{m+1}{2})}$$