
4321

1. Expand $\cos^4(\theta)$ in Legendre polynomials, $P_\ell(\cos \theta)$
2. Expand $\cos(4\theta)$ in Legendre polynomials, $P_\ell(\cos \theta)$
3. What is Y_{42} ?
4. All planar triangles have an angle sum equal to π . All spherical triangles have an angle sum greater than π . What is the largest possible angle sum for a spherical triangle?

7305

1. Expand $\cos(x)$ in Legendre polynomials, $P_\ell(x)$ on the interval $0 < x < 1$ to six terms and plot both the function and its approximation.
2. All planar triangles have an angle sum equal to π . All spherical triangles have an angle sum greater than π . What is the largest possible angle sum for a spherical triangle?

Bonus: Solve as much of the other class' assignment as you can.