You will use Mathematica to plot polar plots for the power radiated per solid angle $d\Omega$ by an accelerating charge particle

$$\frac{dP}{d\Omega} = \frac{\mu_0 q^2 a^2}{16\pi^2 c} \frac{\sin^2\theta}{(1-\beta\cos\theta)^5}.$$

for $v = 0$, $v = 0.01\ c$,$v = 0.1\ c$, $v = 0.5\ c$, and $v = 0.99\ c$.

- Find an expression for θ_{max} where $dP/d\Omega$ is maximum.
- To make $dP/d\Omega = 1$ at θ_{max} for all plots, choose

$$\frac{\mu_0 q^2 a^2}{16\pi^2 c} = \frac{(1-\beta\cos\theta_{max})^5}{\sin^2\theta_{max}}$$

- Make all the plots on the same figure with the following range $-0.5 \le x \le 1.1$, and $-1.1 \le y \le 1.1$. Also, use the following option: Frame→ Ture.