Start with

$$\frac{dP}{d\Omega} = \frac{q^2}{16\pi^2\epsilon_0}\frac{[\hat{\imath}\times(\mathbf{u}\times\mathbf{a})]^2}{(\hat{\imath}\cdot\mathbf{u})^5}$$

a- For the case when the velocity and acceleration are perpendicular, choose your axes so that **v** lies along the $z$ axis and **a** along the $x$ axis and show that

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

b- Use Mathematica to plot polar plots for $dP/\Omega$ for $v = 0$, $v = 0.01\ c$, $v = 0.1\ c$, $v = 0.5\ c$, and $v = 0.99\ c$.
To make $dP/d\Omega = 1$ at $\theta = 0$, choose $\phi = 0$, and

$$\frac{\mu_0 q^2 a^2}{16\pi^2 c} = (1-\beta)^3$$

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