1. Given $\mathcal{L} = -\frac{1}{16\pi} F^{\mu\nu} F_{\mu\nu} + \frac{1}{8\pi} \left(\frac{mc}{\hbar}\right)^2 A_\mu A^\mu$, find the equation of fields using Euler-Lagrange equation.

2. What should m be set equal to in order to recover Maxwell's equation for free space.