19. The intensity is given by $I = \frac{1}{2}\rho v\omega^2 s_m^2$, where ρ is the density of air, v is the speed of sound in air, ω is the angular frequency, and s_m is the displacement amplitude for the sound wave. Replace ω with $2\pi f$ and solve for s_m:

$$s_m = \sqrt{\frac{I}{2\pi^2 \rho v f^2}} = \sqrt{\frac{1.00 \times 10^{-6}\,\mathrm{W/m^2}}{2\pi^2 (1.21\,\mathrm{kg/m^3})(343\,\mathrm{m/s})(300\,\mathrm{Hz})^2}} = 3.68 \times 10^{-8}\ \mathrm{m}\ .$$