

Find the following integrals, and *check your answers!!*

$$1. \int \frac{1}{\sqrt{1-x}} dx \quad (u = 1 - x)$$

$$2. \int x \sin(\pi x^2) dx \quad (u = \pi x^2)$$

$$3. \int_1^3 \frac{x}{1+x^2} dx \quad (u = 1 + x^2)$$

$$4. \int \frac{e^{\sqrt{x+1}}}{\sqrt{x+1}} dx \quad (u = \sqrt{x+1})$$

$$5. \int_2^5 \frac{1}{x \ln(x)} dx \quad (u = \ln(x))$$