

1. Evaluate Evaluate

$$\int_1^4 \frac{(1 + \sqrt{x})}{\sqrt{x}} dx$$

$$\int \cos^4 5x \sin 5x dx$$

$$\int_{-1}^1 \frac{x^2}{1 + x^6} dx$$

$$\int_0^1 x 3^{x^2} dx$$

$$\int \sqrt[3]{2 - x} dx$$

$$\int \frac{1 + y}{\sqrt{1 - y^2}} dy$$

$$\int_0^{\frac{\sqrt{\pi}}{2}} x \sec(x^2) \tan(x^2) dx$$