$$\int \frac{3x^4}{1 - x^5} \, dx \qquad (1)$$

$$\int \sec^2\left(x^7\right) 7x^6 \, dx \qquad (2)$$

$$\int \left(1 - x^2\right) e^x \, dx \qquad (3)$$

Does the following series **converge**?

$$\sum_{n=0}^{\infty} \frac{17}{3^n} \qquad (4)$$

$$\int \frac{6x^5}{\sqrt{1 - \left(x^6\right)^2}} \, dx \qquad (5)$$