

Operations on Power Series
Related to Taylor Series

Session 100

$$1) \arctan(5u) = \frac{5}{1+25u^2} = \sum_{n=0}^{\infty} (-1)^n \frac{5^{2n+1}}{u^{2n}} \Rightarrow \sum_{n=0}^{\infty} (-1)^n \frac{5^{2n+1}}{u^{2n}}$$

$$2) \int_0^1 \sin u^2 du = \left. \frac{1}{3} u^3 \right|_0^1 = \frac{1}{3}$$