

Daily Homework:

1. Suppose

$$e^x = a_0 + a_1x + a_2x^2 + a_3x^3 + \dots$$

- (a) Using the methods of the class, find a_0 , a_1 , a_2 , a_3 , and a_4 .
- (b) Find a general formula for a_n .
- (c) Integrate

$$\int e^{x^2} dx.$$

2. Suppose

$$\frac{1}{1-x} = a_0 + a_1x + a_2x^2 + a_3x^3 + \dots$$

- (a) Using the methods of the class, find a_0 , a_1 , a_2 , a_3 , and a_4 .
- (b) Find a general formula for a_n .
- (c) Use integration to find an infinite polynomial such that

$$\ln |1-x| = b_0 + b_1x + b_2x^2 + b_3x^3 + b_4x^4 + \dots$$