Given: f(t) = 2t for $-1 \le t < 1$, and repeating outside those limits

Find: The middle 3 complex Fourier Series coefficients c_{-1} , c_0 , and c_1

Hint: $\int t e^{at} dt = \frac{t}{a} e^{at} - \frac{1}{a^2} e^{at}$