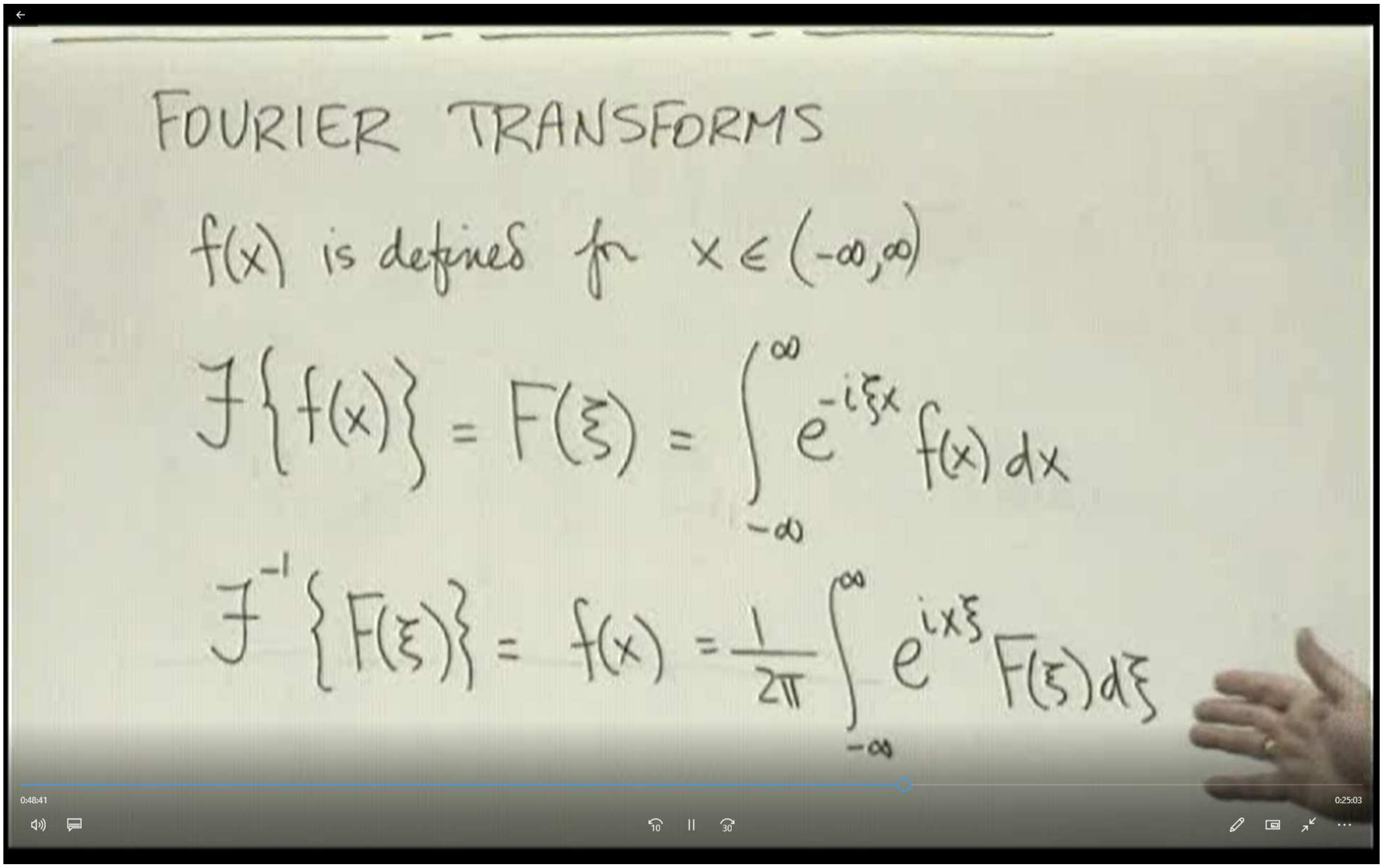
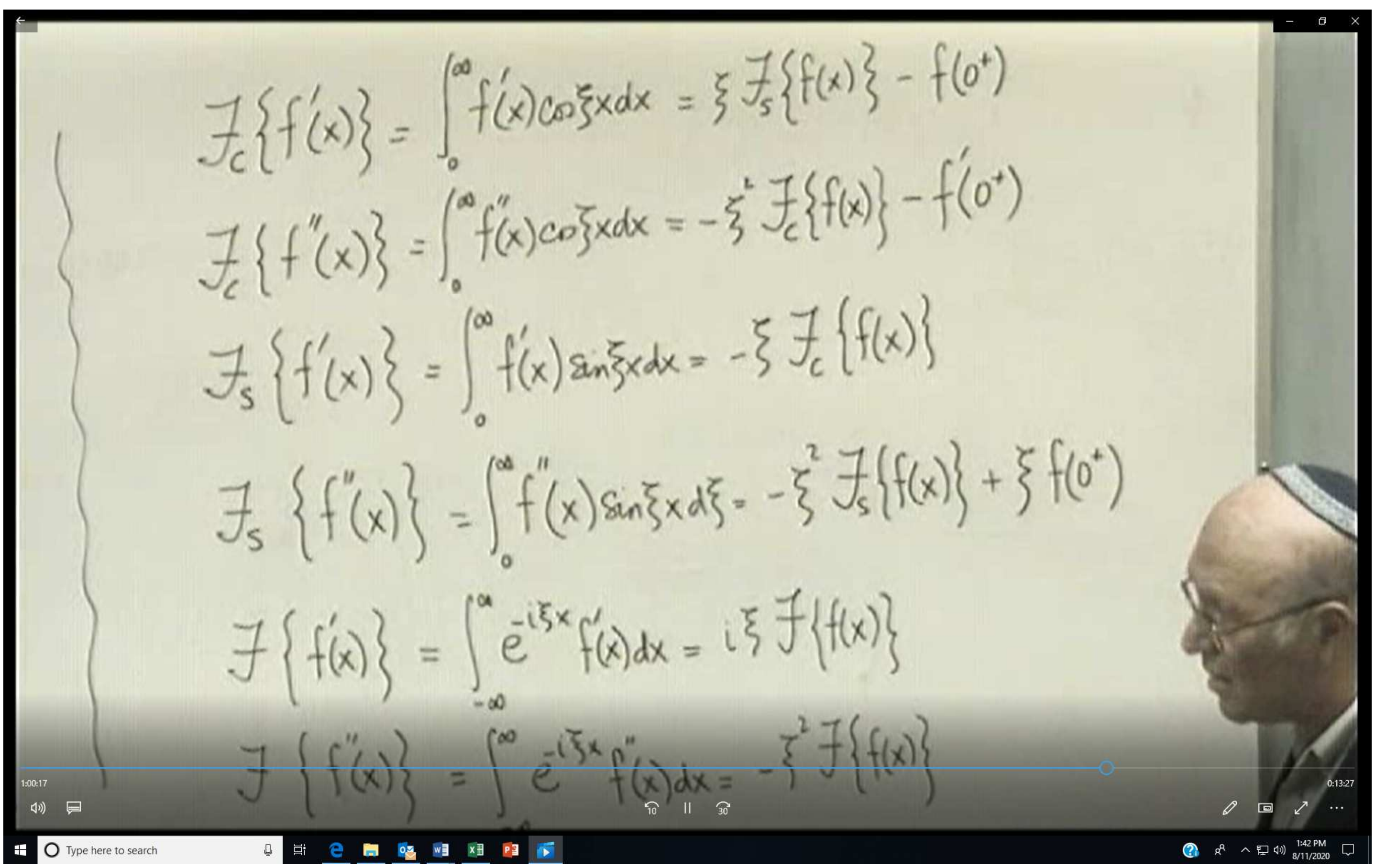
Fourier Transforms





$$F(\xi)\,G(\xi)$$

$$F(\xi) = \int_0^\infty f(x)\cos\xi x\,dx$$

$$G(\xi) = \int_0^\infty g(x)\cos\xi x\,dx$$

$$\mathcal{F}_c^{-1}\{F\cdot G\} = \frac{1}{2}\int_0^\infty f(u)\left[g(x-u) + g(x+u)\right]du$$

$$\mathcal{F}_c\{F\cdot G\} = \frac{1}{2}\int_0 f(u)\left[g(x-u) + g(x+u)\right] d$$

$$F(\xi) = \int_0^\infty f(x)\sin\xi x\,dx$$

$$G(\xi) = \int_0^\infty g(x)\sin\xi x\,dx$$

$$\mathcal{F}_s^{-1}\{F\cdot G\} = \frac{1}{2}\int_0^\infty f(u)\left[g(x-u) - g(x+u)\right]du$$

$$F(\xi) = \int_{-\infty}^{\infty} e^{-i\xi x} f(x)\,dx$$

$$G(\xi) = \int_{-\infty}^{\infty} e^{-i\xi x} g(x)\,dx$$

$$\mathcal{F}^{-1}\{F \cdot G\} = \int_{-\infty}^{\infty} f(u)\, g(x-u)\,du$$