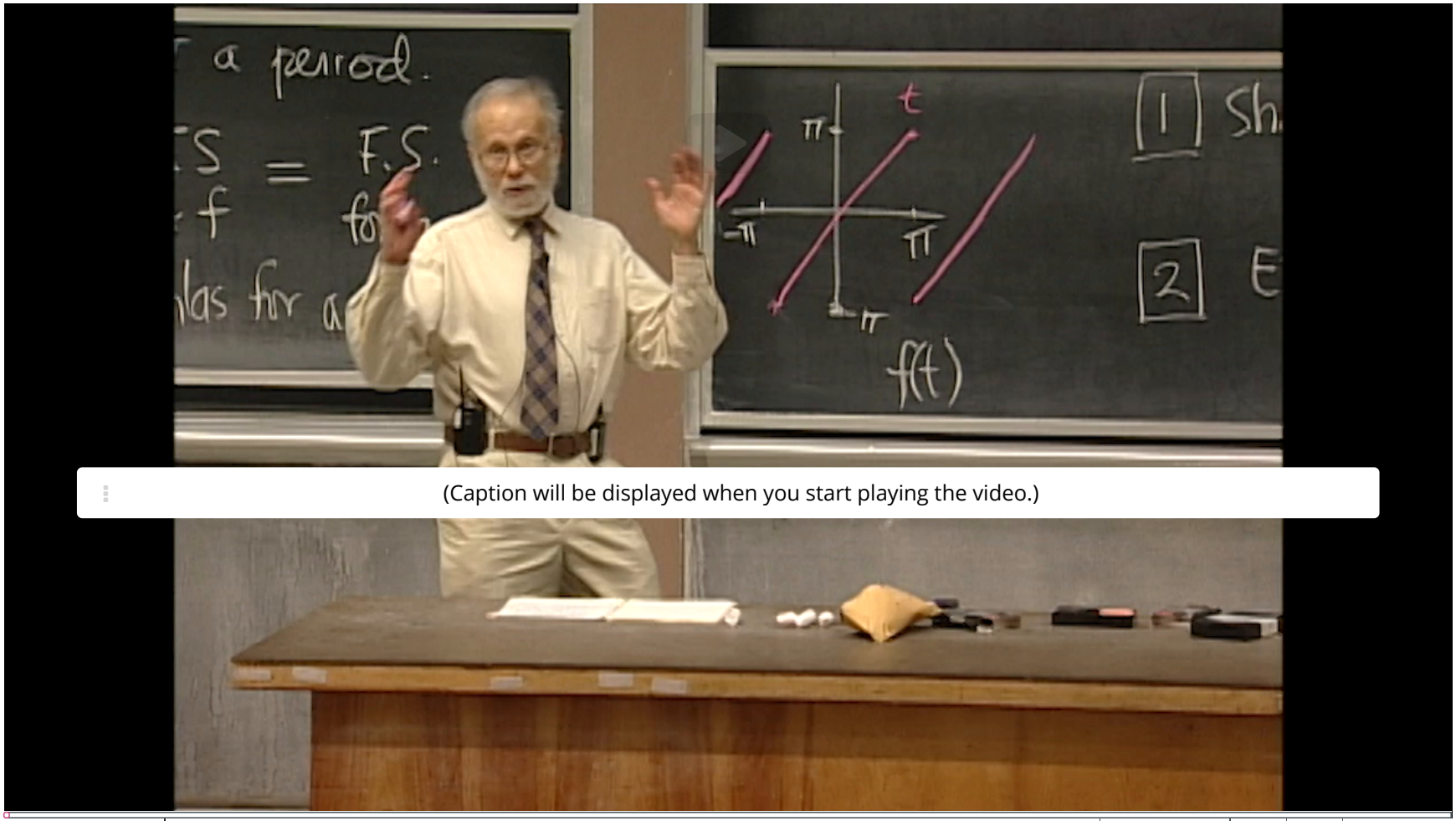
14. Even and odd simplified formulas
Formulas, simplified



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Even functions: If $f(t)$ is an even, 2π periodic function, its Fourier series is

$$f(t) = \frac{a_0}{2} + \sum_{n=1}^{\infty} a_n \cos(nt),$$

where (since $f(t)\cos(nt)$ is an even function as well)

$$a_n = \frac{2}{\pi}\int_0^{\pi} f(t)\cos(nt)\ dt, \qquad b_n = 0.$$

Odd functions:

If $f(t)$ is an odd, 2π periodic function, its Fourier series is

$$f(t) = \sum_{n=1}^{\infty} b_n \sin(nt),$$

where (since $f(t)\sin(nt)$ is an even function)

$$b_n = \frac{2}{\pi}\int_0^{\pi} f(t)\sin(nt)\ dt, \qquad a_n = 0.$$

14. Even and odd simplified formulas

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