

$\lim_{L \rightarrow \infty} \frac{1}{L} \int_0^L f(x) dx = \langle f(x) \rangle$   
 $\epsilon = 12 \text{ Volt}$   
 $\epsilon = i R_{eq}$

Periodic  $\frac{1}{2\pi} \int_0^{2\pi} \sin^2 \theta d\theta = \langle \sin^2 \theta \rangle = 1/2$

Symmetry:  $\int_0^{\pi/2} \sin^2 \theta d\theta = 1/2 \int_0^{\pi/2} 1 d\theta = \pi/4$

$\sin^2 \theta = \frac{1 - \cos 2\theta}{2}$



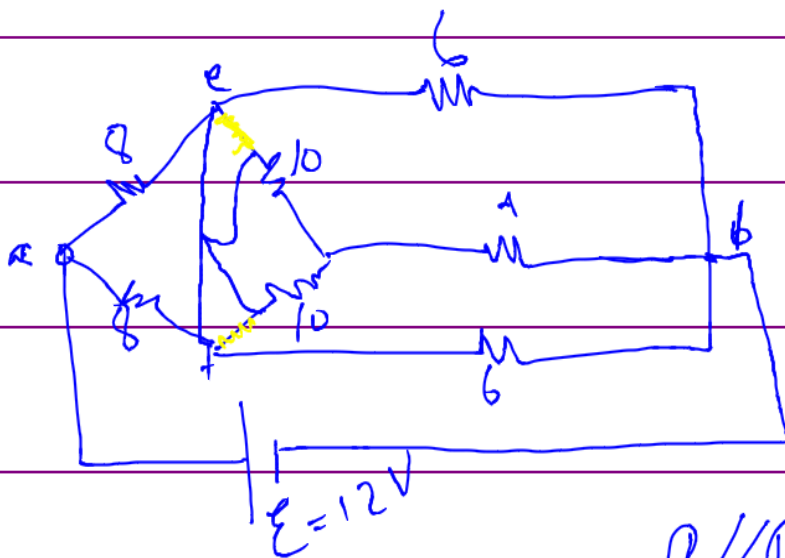
$\langle \sin^2 \theta + \cos^2 \theta \rangle = \langle 1 \rangle$

$$\langle \sin^2 \theta \rangle + \langle \cos^2 \theta \rangle = 1$$

$$\langle \sin^2 \theta \rangle = \frac{1}{2}$$

Fermi

Feynmann



$$R_1 // R_2$$

$$R_{eq} = \frac{R_1 R_2}{R_1 + R_2}$$

$$R_1 = R_2$$

$$R_{eq} = \frac{R_1}{2}$$

$$R // R // R // R$$

$$\dots n // R$$

$$R_{eq} = \frac{R}{n}$$

