

$$F(x^2 + 1) = e^x \sin\left(\frac{\pi x}{2}\right) \xrightarrow{\text{παραγωγίζουμε}} F'(x^2 + 1) \cdot 2x = e^x \sin\left(\frac{\pi x}{2}\right) - e^x \eta\mu\left(\frac{\pi x}{2}\right) \frac{\pi}{2} \Rightarrow$$

$$\xrightarrow{F'(x)=f'(x)} 2x \cdot f(x^2 + 1) = e^x \sin\left(\frac{\pi x}{2}\right) - \frac{\pi}{2} e^x \eta\mu\left(\frac{\pi x}{2}\right) \Rightarrow$$

$$\xrightarrow{\text{θέτουμε } x=1} 2 \cdot 1 \cdot f(1^2 + 1) = e^1 \sin\left(\frac{\pi \cdot 1}{2}\right) - \frac{\pi}{2} e^1 \eta\mu\left(\frac{\pi \cdot 1}{2}\right) \Rightarrow$$

$$\begin{array}{l} \sin\left(\frac{\pi}{2}\right)=0 \\ \eta\mu\left(\frac{\pi}{2}\right)=1 \end{array} \Rightarrow 2 \cdot f(2) = -\frac{\pi}{2} e \Rightarrow f(2) = -\frac{e\pi}{4}$$