

$$2.86 \quad f(a) = \int_0^a \left(\cos \frac{\pi}{2a} x + \frac{\pi^2}{4a^2} \sin \frac{\pi}{a} x \right) dx = \frac{\sin \frac{\pi}{2a} x}{\frac{\pi}{2a}} - \frac{\pi^2}{4a^2} \cos \frac{\pi}{a} x \Big|_0^a =$$

$$\frac{2a}{\pi} \sin \frac{\pi}{2a} x - \frac{\pi}{4a} \cos \frac{\pi}{a} x \Big|_0^a = \left(\frac{2a}{\pi} + \frac{\pi}{4a} \right) - \left(-\frac{\pi}{4a} \right) = \frac{2a}{\pi} + \frac{2\pi}{4a} = \frac{2a}{\pi} + \frac{\pi}{2a}$$

$$f'(a) = \frac{2}{\pi} - \frac{\pi}{2a^2} = 0 \quad \rightarrow \quad 4a^2 = \pi^2 \quad \rightarrow \quad a = \pm \frac{\pi}{2}$$

\downarrow
 פונקציה איז לא קבועה

\rightarrow נגזרת שנייה
 $f'' = \frac{\pi}{a^3} \rightarrow \frac{\pi}{2}$