

$$\begin{aligned}
 \frac{71}{(133)} \quad & f(x) = \sin x \rightarrow f'(x) = \cos x = \sin\left(\frac{\pi}{2} + x\right) \\
 & f''(x) = -\sin x = \sin\left(2 \cdot \frac{\pi}{2} + x\right) \rightarrow f'''(x) = -\cos x = \sin\left(3 \cdot \frac{\pi}{2} + x\right) \rightarrow f^{(4)}(x) = \sin x = \sin\left(4 \cdot \frac{\pi}{2} + x\right) \\
 & f^{(n)}(x) = \sin\left(n \cdot \frac{\pi}{2} + x\right)
 \end{aligned}$$