

$$\begin{aligned}
 3) \quad h(t) &= \sqrt{t}(1-t^2) \\
 h'(t) &= \frac{1}{2}t^{-\frac{1}{2}}(1-t^2) + \sqrt{t}(-2t) \\
 &= \frac{1-t^2}{2\sqrt{t}} - \frac{2t\sqrt{t} \cdot 2\sqrt{t}}{2\sqrt{t}} \\
 &= \frac{1-5t^2}{2\sqrt{t}}
 \end{aligned}$$

$$\begin{aligned}
 17) \quad f(x) &= x \cos x \\
 f'(x) &= 1 \cos x - x \sin x \\
 f'\left(\frac{\pi}{4}\right) &= \frac{1}{\sqrt{2}} - \frac{\pi}{4} \frac{1}{\sqrt{2}} \\
 &= \frac{(4-\pi)\sqrt{2}}{4\sqrt{2}\sqrt{2}} = \frac{\sqrt{2}}{8}(4-\pi)
 \end{aligned}$$