

$$\begin{aligned}(4) \quad & (\sin x \cos^3 x)' \\ &= (\sin x)' \cos^3 x + \sin x (\cos^3 x)' \\ &= \cos^4 x + \sin x (t^3)' (\cos x)' \\ &= \cos^4 x - 3 \sin^2 x \cos^2 x \\ &= \cos^2 x (\cos^2 x - 3 \sin^2 x)\end{aligned}$$