

$$1) f(x) = \sin^4(2x+1) \Rightarrow$$

$$\begin{aligned} \rightarrow f'(x) &= 2\sin(2x+1) \cdot \cos(2x+1) \cdot 2 \\ &= 4 \sin(2x+1) \cdot \cos(2x+1) \end{aligned}$$

$$\begin{aligned} \rightarrow f''(x) &= u'v + uv' = \\ &= 8\cos^2(2x+1) - 8\sin^2(2x+1) \\ &= 8(\cos^2(2x+1) - \sin^2(2x+1)) \end{aligned}$$

$$2) f(x) = \ln(x^3 + 2\sin(x)) \Rightarrow$$

$$\rightarrow f'(x) = \frac{1}{x^3 + 2\sin(x)} \cdot (3x^2 + 2\cos(x)) =$$

$$= \frac{3x^2 + 2\cos(x)}{x^3 + 2\sin(x)}$$

$$f''(x) = \frac{u'v - uv'}{v^2} =$$

$$= \frac{6x - 2\sin(x)}{x^3 + 2\sin(x)} - \frac{(3x^2 + 2\cos(x))^2}{(x^3 + 2\sin(x))^2}$$