

## Quiz 12

$$1. \quad g = \ln(x^5 + 8x) \Rightarrow g' = \frac{5x^4 + 8}{x^5 + 8x}$$

$$2. \quad g = \ln \frac{(2x+1)^3}{\sin^5 x} = 3 \ln(2x+1) - 5 \ln(\sin x)$$

$$\Rightarrow g' = \frac{6}{2x+1} - \frac{5 \cos x}{\sin x}$$

$$3. \quad g = 3(\arctan x)^5 \Rightarrow$$

$$g' = \frac{15(\arctan x)^4}{x^2 + 1}$$

$$4. \quad g = \arcsin(x^3 + 1) \Rightarrow$$

$$g' = \frac{3x^2}{\sqrt{1 - (x^3 + 1)^2}}$$

$$5. \quad g = \operatorname{arccsc}(7x+1) \Rightarrow$$

$$g' = \frac{7}{|7x+1| \sqrt{(7x+1)^2 - 1}}$$

