

Ex 2.8.11

$$g) f(x) = \sqrt[3]{x^2+x+1} = (x^2+x+1)^{\frac{1}{3}}$$

$$u = x^2+x+1 \quad u' = 2x+1$$

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

$$= \frac{1}{3} \cdot \frac{1}{\sqrt[3]{(x^2+x+1)^2}} \cdot (2x+1)$$

$$= \frac{2x+1}{3 \sqrt[3]{(x^2+x+1)^2}}$$

$$(u^n)' = n u^{n-1} \cdot u'$$