

Ex 1. Use the chain rule to find the derivative of the following expressions:

a) $(x^3 + x)^{500}$

b) $x(x^2 + 1)^2$

c) $\sqrt[4]{1 - 8x^2}$

d) $f(x)^2 g(x)$

[Note: your answer should be left in terms of $f(x)$ and $g(x)$]

e) $\frac{1-x}{(2x^2+7)^2}$

f) $\sqrt{\sqrt{2x+1}+1}$