§3.6: What to do about derivatis of functins like...

$$y = (x^2+1)^{10} \qquad \text{or} \qquad y = \sin(4x+3)$$

What is this called when "inside" & "outside".

How can you know that

$$\frac{d}{dx}\left[f(g(x))\right] \neq f'(g'(x))$$

$y = (x^2+1)^2 = x^4+2x^2+1$

$y' = 4x^3+4x$ ✓

try our fantasy formula:

$y' = 2(2x)' = 4x$ Nope :(

// Extras:

$y = (x\sin(x))^5$

$y = \left(\frac{x}{x+\sin x}\right)^5$