Chain Rule Practice

Find the derivative of each function

1. $y = (x^2 + 4)^3$ 2. $y = (\cos x - x)^6$ 3. $y = x(x^4 - 5)^3$

4. $y = \dfrac{1}{(x^2 - 9)^3}$ 5. $y = (3 \tan x - 2)^4$ 6. $y = x\cos(1 - x^2)$

7. $y = \dfrac{\tan^2 x + 1}{1 - x}$ 8. $y = (\sec^3 x - 4x^2)^5$ 9. $y = \dfrac{x - \sin \pi x}{4 + \cos \pi x}$

10. $y = \tan(6x) - 6\tan x$ 11. $y = \left[\sin(\pi x^3) - \cos(\pi x)\right]^6$

Find the derivative of each function

1. $y = (x^2 + 4x + 6)^5$ 2. $y = \tan(3x)$ 3. $y = (x^3 - 5x)^4$

4. $y = 4\sec(5x)$ 5. $y = (3x - 2)^{10}(5x^2 - x + 1)^{12}$ 6. $y = \cos(x^3)$

7. $y = (6x^2 + 5)^3(x^3 - 7)^4$ 8. $y = \cos^3 x$ 9. $y = (2x^2 - 6x + 1)^{-8}$

10. $y = (1 + \cos^2 x)^6$