Chain Rule ws 4

1) $f'(x) = e^{\cos(2x^3)}(-\sin(2x^3))(6x^2) - \frac{1}{2}(\ln(x))^{-1/2}\left(\frac{1}{x}\right)$

2) $f'(x) = \left[\frac{1}{3}(4x)^{-2/3}(4)\right](\tan^3\sqrt{x}) + \left[3\tan^2\sqrt{x}\,(\sec^2\sqrt{x})\left(\frac{1}{2}x^{-1/2}\right)\right]\left(\sqrt[3]{4x}\right)$

3) $f'(x) = \dfrac{(\sec x\tan x)(x^2-4)^5 - \left[5(x^2-4)^4(2x)\right]\sec x}{(x^2-4)^{10}}$

4) $f'(x) = \frac{1}{3}\left(\sqrt{x} - \sin(3x)\right)^{-2/3}\left(\frac{1}{2}x^{-1/2} - (\cos(3x))(3)\right)$

5) $f'(x) = \dfrac{\left[2(\cot x)(-\csc^2 x)\right](x) - (1)(\cot^2 x)}{x^2} - \dfrac{\left[\left(\frac{1}{4x}\right)(4)\right](3x) - (3)(\ln 4x)}{9x^2}$

6) $f'(x) = \dfrac{\left[(10x)(\ln(x^3)) + \left[\left(\frac{1}{x^3}\right)(3x^2)\right](5x^2)\right]\csc(2x) - \left[(-\csc(2x)\cot(2x))(2)\right](5x^2\ln(x^3))}{\csc^2(2x)}$

$$- \frac{\left[4(e^{x^3})(3x^2)\right](5x) - (5)(4e^{x^3})}{25x^2}$$

7) $[f(g(2))]'$ or $\frac{d}{dx}f(g(2)) = f'(g(2))\cdot g'(2)$

from the table $g(2) = 6$

So, $f'(6)\cdot g'(2)$

$(-10)(-8) = \boxed{80}$