6. $f(x) = 5x^{1/2} - \frac{2}{5x^2}$

Ax^B

$f(x) = 5x^{1/2} - \frac{2}{5}x^{-2}$

$f'(x) = \frac{5}{2} \cdot x^{-1/2} - \frac{2}{5} \cdot -2x^{-3}$

$\frac{5}{2} \cdot \frac{1}{x^{1/2}} + \frac{4}{5x^3}$

$\frac{5}{2x^{1/2}} + \frac{4}{5x^3}$

16. $\underbrace{(2x+1)}_{f}\underbrace{(x^4+1)^{-2}}_{g}$

$f' = 2$

$g' = -2(x^4+1)^{-3} \cdot 4x^3$

$-8x^3(x^4+1)^{-3}$

$f'g + fg'$

$2(x^4+1)^{-2} + (2x+1)\cdot -8x^3(x^4+1)^{-3}$

$(x^4+1)^{-3}\left[2(x^4+1) - 8x^3(2x+1)\right]$

$2x^4+2-16x^4-8x^3$

$(x^4+1)^{-3}\left[-14x^4-8x^3+2\right]$

$$\frac{-14x^4-8x^3+2}{(x^4+1)^3}$$

x^{20}

$20x^{19}$

PEMDAS

ex $2(x+3)^4$

$(2x+6)^4$

23. $f(x) = \cot(2x^3)$

$f' = -\csc^2(2x^3) \cdot 6x^2$

$$\boxed{-6x^2 \cdot \csc^2(2x^3)}$$

3) $h = (f(x))^2 \rightarrow 2 \cdot f(x) \cdot f'(x)$

$h'(2) = ?$

$2 \cdot f(2) \cdot f'(2)$

$(2)(1)\left(-\frac{1}{2}\right)$