1. $f'(x) = 10x^9 + 7x^8 + 4x^7 - 35x^6 - 1.98x^5 + 5\pi x^4 - 4\sqrt{2}x^3$

2. $f'(x) = \dfrac{1}{3\sqrt[3]{x^2}}$, $g'(x) = -\dfrac{3}{x^4} + \dfrac{3}{4\sqrt[4]{x^7}}$, $h'(x) = \frac{9}{2}x^{7/2} - x^{-3/2}$

3. $f'(x) = 64x^3$, $g'(x) = 15x^{14}$

4. This follows immediately when the given functions are expanded.

5. $f'(x) = n(kx)^{n-1}k$, $g'(x) = n\left(x^k\right)^{n-1} \cdot kx^{k-1}$