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

power rule —

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

2. $g(x) = \sin x \tan x$ product rule or quotient rule.

Q: $g(x) = \frac{\sin^2 x}{\cos x}$; $g' = \frac{2\cos^2 x \sin x + \sin^3 x}{\cos^2 x} = \frac{\cos^2 x \sin x + (\cos^2 x + \sin^2 x)\sin x}{\cos^2 x}$

P: $g(x) = \sin x \tan x$; $g' = \sin x \sec^2 x + \cos x \tan x$

3. $p(x) = \cos x(\sqrt{x} + \sin x)$

product rule:

$$p' = -\sin x(\sqrt{x} + \sin x) + \cos x\left(\frac{1}{2} x^{-\frac{1}{2}} + \cos x\right)$$

4. $q(x) = \frac{\sin x}{x^2 + \cos x}$ quotient

$$q' = \frac{-\cos x(x^2 + \cos x) - \sin x(2x - \sin x)}{(x^2 + \cos x)^2}$$