

Diff Cal 7th per.

$$1. y = (3x^2 - 4x)^7 \sin(\log_5 [6x^{12}]) - \cos(\tan 7^x)$$

$$2. y = \operatorname{arcsec}\left(2 \log_3\left(\sin \frac{12x - 15}{3x^2}\right)\right)$$

$$3. y = \left[\sqrt[5]{\frac{\tan^2 x - 7^{3x^2 - 13}}{\ln(\arcsin(\sec^2(\arctan(12x^9 + 16x^2 + 5))))}} \right]^6$$

$$4. f(x) = \left[(\ln(\sec^2 x)) x^2 \right]^3 \cdot \sqrt{\arcsin x}$$

$$5. y = \frac{2^{\sin^2(x^5 - 3) + \ln 5x}}{\tan 3x}$$

$$6. y = \ln(2 \tan 3x)^2 + \arctan \frac{1}{4} x$$

$$7. f(x) = \arcsin \left[\ln(\sin x + 4 \csc x)^2 - \operatorname{arcsec} x \right]^3$$

$$8. f(x) = \left[\csc\left(\frac{3x - x^2}{\sqrt{5x - 2} - 3}\right) \right]^4 \cdot \arctan \left[\log_3(4x - 3) \right]^5$$

Diff Cal 8th per.

$$1. f(x) = 5^{\arcsin(\log_2(3x+5))} - \frac{\tan x^5}{\ln(5x^2)}$$

$$2. y = \frac{(\csc x)(x^4)}{\ln x} + \sqrt{4x(\log_4 x)}$$

$$3. y = 2^{4x} + \sqrt{\log_4(\sin(2x^4)) - 4x} + 2\cos 4x \sin 2x$$

$$4. y = \ln(\sin(2^{\operatorname{arccsc}(3x)})) + \cos(6x^2)$$

$$5. f(x) = \cot^2(\sin(\sqrt[3]{\ln x})) \cos\left(\frac{2x^3 - 8x^2}{\sqrt{x^2 - 7x}}\right)$$

$$6. f(x) = \frac{\cos^2(\operatorname{arcsec}(3x^2+5)) \cdot \log_5(3x^2)}{\sqrt{\arccos(\sin^2(x^4+5)) \cdot \arctan(\ln(\sin^2(5x+4)))}}$$

$$7. f(x) = \left(\frac{\ln(3x^2-15)^3}{\sqrt[3]{\arctan(2x-11)^2}}\right)^2 + \frac{\operatorname{arccot}^2(x^{1/3}+5)}{\ln(\cos\sqrt{5x-12})}$$

$$8. h(x) = \frac{2\tan\left(\frac{12x^6}{\sqrt{x}\tan x}\right) - 3\log_4\sqrt{x-4} + 2}{\sqrt{2x}\cos x - 10x^3 + 4\arctan\left(\frac{14-x}{\sqrt{x}}\right)}$$