

$$f(x) = \ln \sqrt{7 + \cos^2 x} = \frac{\cos x \sin x}{7 + \cos^2(x)}$$

$$\ln \sqrt{7 + \cos^2 x}$$

$$\ln(7 + \cos^2 x)^{1/2}$$

$$\frac{1}{2} \ln(7 + \cos^2 x)$$

$$\frac{1}{2} \ln(\cos^2(x) + 7)$$

$$\frac{1}{2} (\cos^2(x) + 7)$$

$$\cos^2 x + 7$$

$$2 \cos^2(x) + 7$$

$$- \sin(x) \cos(x)$$

$$2 \cos^2(x) + 7$$

$$- \cos(x) \sin(x)$$

$$\cos(x) \sin(x)$$

$$g(\theta) = \sin(2\theta)$$

$$(\sin^2(2\theta) - \sin(2\theta))$$

$$(\sin^2(2\theta) - \sin(2\theta))$$

$$12 \cos(2\theta) \sin^2(2\theta)$$

$$y = \ln x^7 \quad (1, 0)$$

$$y = mx + b$$

$$y = 0$$

$$f(x^2) = \ln x^7 = f(x) = \frac{7}{x}$$

$$x = 1$$

$$a = \frac{7}{5}$$

$$m = 7$$

$$y = 7x - 7$$

$$y = 7x + -7$$

$$f(x) = \cos(4x^2)$$

$$y = \ln(x \sqrt{x^2 - 2})$$

$$f'(x) = -8x \sin(4x^2)$$

$$-8 \sin(4x^2) + 8x^2 \cos(4x^2)$$

$$-8 \sin(4x^2) + 64x^2 \cos(4x^2)$$

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