

LÖSUNG ZU 616:

$$f(x) = \tan(x) = \frac{\sin(x)}{\cos(x)}$$

$$g(x) = \sin(x) \quad g'(x) = \cos(x) \quad h(x) = \cos(x) \quad h'(x) = -\sin(x)$$

Anwendung der Quotientenregel:

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

Einschub: $\cos^2(x) + \sin^2(x) = 1$ (laut Definition)

$$f'(x) = \frac{1}{\cos^2(x)}$$

