$$g(x) = x - \frac{f(x)}{f'(x)}$$

$$g'(x) = 1 - \frac{f'(x)f(x) - f(x)f''(x)}{f'(x)}$$

$$= x - x + f(x)f''(x)$$

$$= x - x + f(x)f(x)$$

$$=$$