

Product of Linear APProximations

Session 24

$$f(n) \approx f(n_0) + f'(n_0)(n - n_0)$$

$$g(n) \approx g(n_0) + g'(n_0)(n - n_0)$$

$$\Rightarrow g(n_0)f(n_0) + g'(n_0)\Delta n + g''(n_0)\Delta n^2$$

$$g \cdot f(n_0) \approx f \cdot g(n_0) + (f \cdot g)'(n_0) \Delta n$$

$$\Rightarrow \boxed{\text{□}}$$