

ΠΙΝΑΚΑΣ ΑΝΑΚΕΦΑΛΑΙΩΣΗΣ

Κανόνες παραγώγισης

$$(f(x) \pm g(x))' = f'(x) \pm g'(x)$$

$$(c \cdot f(x))' = c \cdot f'(x)$$

$$(f(x) \cdot g(x))' = f'(x) \cdot g(x) + f(x) \cdot g'(x)$$

$$\left(\frac{1}{g(x)} \right)' = -\frac{g'(x)}{[g(x)]^2}$$

$$\left(\frac{f(x)}{g(x)} \right)' = \frac{f'(x)g(x) - f(x)g'(x)}{[g(x)]^2}$$

$$(g \circ f)'(x) = g'(f(x)) \cdot f'(x)$$

Παράγωγοι βασικών συναρτήσεων

$$(c)' = 0$$

$$(x)' = 1$$

$$(x^v)' = v x^{v-1}, \quad v \in \mathbb{N}^*$$

$$(\sqrt{x})' = \frac{1}{2\sqrt{x}} \quad (\text{για κάθε } x > 0)$$

$$(\eta \mu x)' = \sigma \upsilon \nu x$$

$$(\sigma \upsilon \nu x)' = -\eta \mu x$$

$$(\ln x)' = \frac{1}{x}, \quad x > 0$$

$$(\ln |x|)' = \frac{1}{x}$$

$$(\epsilon \phi x)' = \frac{1}{\sigma \upsilon \nu^2 x}$$

$$(\sigma \phi x)' = -\frac{1}{\eta \mu^2 x}$$

$$(e^x)' = e^x$$

$$(\alpha^x)' = \alpha^x \cdot \ln \alpha$$

$$(x^t)' = t \cdot x^{t-1}, \quad t \in \mathbb{R}, \quad x > 0$$

Παράγωγοι σύνθετων συναρτήσεων

$$([f(x)]^v)' = v [f(x)]^{v-1} \cdot f'(x)$$

$$(\sqrt{f(x)})' = \frac{1}{2\sqrt{f(x)}} f'(x) \quad f(x) > 0$$

$$(\eta \mu f(x))' = \sigma \upsilon \nu f(x) \cdot f'(x)$$

$$(\sigma \upsilon \nu f(x))' = -\eta \mu f(x) \cdot f'(x)$$

$$(\ln f(x))' = \frac{1}{f(x)} f'(x), \quad f(x) > 0$$

$$(\ln |f(x)|)' = \frac{1}{f(x)} f'(x)$$

$$(\epsilon \phi f(x))' = \frac{1}{\sigma \upsilon \nu^2 f(x)} \cdot f'(x)$$

$$(\sigma \phi f(x))' = -\frac{1}{\eta \mu^2 f(x)} \cdot f'(x)$$

$$(e^{f(x)})' = e^{f(x)} \cdot f'(x)$$

$$(\alpha^{f(x)})' = \alpha^{f(x)} \cdot \ln \alpha \cdot f'(x)$$

$$([f(x)]^t)' = t [f(x)]^{t-1} \cdot f'(x)$$