

RIEŠENIE - MINITEST 8 - SK: 9.15 - 9.11.2021

"FORMÁLNE ZDERIVUJTE, BEZ OVEROVANIA Df ani Df'." SPRAVU (2)

a.) $(\sqrt{x^4 + 7x^2})' = ([x^4 + 7x^2]^{\frac{1}{2}})' = \frac{1}{2} \cdot (x^4 + 7x^2)^{-\frac{1}{2}} \cdot (4x^3 + 14x) = \frac{4x^3 + 14x}{2\sqrt{x^4 + 7x^2}} = \frac{x \cdot (2x^2 + 7)}{\sqrt{x^2 \cdot (x^2 + 7)}} = \frac{x \cdot (2x^2 + 7)}{|x| \sqrt{x^2 + 7}}$ 0,25

UVAŽUJEME: $x \in \mathbb{R}$

POUŽIJEME

b.) $[e^{(2-5x)} \cdot (x^4 - 6x + 7)]' = [f \cdot g]' = [e^{(2-5x)}]' \cdot (x^4 - 6x + 7) + e^{(2-5x)} \cdot [x^4 - 6x + 7]'$

$= e^{(2-5x)} \cdot (-5) \cdot (x^4 - 6x + 7) + e^{(2-5x)} \cdot (4x^3 - 6)$ POSTUP → 0,5

$= e^{(2-5x)} \cdot (-5x^4 + 30x - 35 + 4x^3 - 6)$ UŠL. → 0,5

$= e^{(2-5x)} \cdot (-5x^4 + 4x^3 + 30x - 41)$

RIEŠENIE - MINITEST 8 - SK: 12:45 - 9. 11. 2021 (UTOROK)

"FORMÁLNE ZDERIVUJTE, BEZ OVEROVANIA Df ani Df'." SPRAVU (2)

a.) $[exp(x^3 + 2x^2)]' = e^{(x^3 + 2x^2)} \cdot (3x^2 + 4x) = e^{x^3 + 2x^2} \cdot x \cdot (3x + 4)$

POSTUP → 0,25 + SPRAVU UŠL. 0,5 &

b.) $(\frac{\ln(x)}{3x^2 + 4x})' = [(\frac{f}{g})]' = [\ln(x)]' \cdot (3x^2 + 4x) - [3x^2 + 4x]' \cdot \ln(x)$

$= \frac{1}{x} \cdot (3x^2 + 4x) - (6x + 4) \cdot \ln(x)$ 0,25

$= \frac{(3x^2 + 4x) - (6x + 4) \ln(x)}{(3x^2 + 4x)^2}$ 0,25

$= \frac{3x + 4 - 2 \cdot (3x + 2) \ln(x)}{(3x^2 + 4x)^2}$

$= \frac{9x^4 + 2 \cdot 3x^2 \cdot 4x + 16x^2}{x^2 \cdot (3x + 4)^2}$ 0,25

$= \frac{9x^4 + 24x^3 + 16x^2}{x^2 \cdot (3x + 4)^2} = x^2 \cdot \frac{9x^2 + 2 \cdot 12x + 16}{(3x + 4)^2} = x^2 \cdot \frac{(3x + 4)^2}{(3x + 4)^2} = x^2$