

Fonction exponentielle

Série 4

Activités mentales et automatismes en classe de première
IREM de Clermont-Ferrand

Dérivation

Donner une expression de $f'(x)$,
où f' est la fonction dérivée de f .

Question 1

$$f(x) = 3e^x$$

Question 2

$$f(x) = x \exp(x)$$

Question 3

$$f(x) = x - 5e^x$$

Question 4

$$f(x) = (2 - x)e^x$$

Question 5

$$f(x) = \frac{-5}{e^x}$$

Question 6

$$f(x) = e^3 - x$$

Question 7

$$f(x) = e^{3-x}$$

Question 8

$$f(x) = \exp(-2x)$$

Question 9

$$f(x) = x^2 + e^{-x}$$

Question 10

$$f(x) = e^{5x-e} - \frac{1}{x}$$

Correction

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Question 1

$$f(x) = 3e^x$$

Question 1

$$f(x) = 3e^x$$

Type : *ku*

Question 1

$$f(x) = 3e^x$$

Type : *ku*

$$f'(x) = 3e^x$$

Question 2

$$f(x) = x \exp(x)$$

Question 2

$$f(x) = x \exp(x)$$

Type : $u \times v$

Question 2

$$f(x) = x \exp(x)$$

Type : $u \times v$

$$f'(x) = (1 + x)\exp(x)$$

Question 3

$$f(x) = x - 5e^x$$

Question 3

$$f(x) = x - 5e^x$$

Type : $u + v$

Question 3

$$f(x) = x - 5e^x$$

Type : $u + v$

$$f'(x) = 1 - 5e^x$$

Question 4

$$f(x) = (2 - x)e^x$$

Question 4

$$f(x) = (2 - x)e^x$$

Type : $u \times v$

Question 4

$$f(x) = (2 - x)e^x$$

Type : $u \times v$

$$f'(x) = (1 - x)e^x$$

Question 5

$$f(x) = \frac{-5}{e^x}$$

Question 5

$$f(x) = \frac{-5}{e^x}$$

Type : $\frac{k}{v}$

Question 5

$$f(x) = \frac{-5}{e^x}$$

Type : $\frac{k}{v}$

$$f'(x) = \frac{5}{e^x}$$

Question 6

$$f(x) = e^3 - x$$

Question 6

$$f(x) = e^3 - x$$

Type : $u + v$ ou $ax + b$

Question 6

$$f(x) = e^3 - x$$

Type : $u + v$ ou $ax + b$

$$f'(x) = -1$$

Question 7

$$f(x) = e^{3-x}$$

Question 7

$$f(x) = e^{3-x}$$

Type : $g(ax + b)$

Question 7

$$f(x) = e^{3-x}$$

Type : $g(ax + b)$

$$f'(x) = -e^{3-x}$$

Question 8

$$f(x) = \exp(-2x)$$

Question 8

$$f(x) = \exp(-2x)$$

Type : $g(ax + b)$

Question 8

$$f(x) = \exp(-2x)$$

Type : $g(ax + b)$

$$f'(x) = -2 \exp(-2x)$$

Question 9

$$f(x) = x^2 + e^{-x}$$

Question 9

$$f(x) = x^2 + e^{-x}$$

Type : $u + v$

Question 9

$$f(x) = x^2 + e^{-x}$$

Type : $u + v$

$$f'(x) = 2x - e^{-x}$$

Question 10

$$f(x) = e^{5x-e} - \frac{1}{x}$$

Question 10

$$f(x) = e^{5x-e} - \frac{1}{x}$$

Type : $u + v$

Question 10

$$f(x) = e^{5x-e} - \frac{1}{x}$$

Type : $u + v$

$$f'(x) = 5e^{5x-e} + \frac{1}{x^2}$$

Fin

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