

PRIMITIVES

Série 3

Automatismes en BTS – IREM de Clermont-Ferrand

Cette série est un QCM.

f est une fonction définie sur un intervalle I et F une primitive de f sur I .

Déterminer la bonne réponse.

Question 1/7

$$f(x) = 3x + 1$$

$$I = \mathbb{R}.$$

$$\text{a) } F(x) = 3$$

$$\text{b) } F(x) = \frac{3x^2}{2} + x$$

Question 2/7

$$f(x) = 3x^2 + 4x - 3$$

$$I = \mathbb{R}.$$

$$\text{a) } F(x) = 6x + 4$$

$$\text{b) } F(x) = x^3 + 2x^2 - 3x + 2$$

$$\text{c) } F(x) = 6x + 2x^2 - 3$$

Question 3/7

$$f(x) = \frac{3}{x} - 2 \cos(x)$$

$$I =]0; +\infty[$$

$$\text{a) } F(x) = 3 \ln(x) - 2 \sin(x)$$

$$\text{b) } F(x) = -\frac{3}{x^2} + 2 \cos(x)$$

$$\text{c) } F(x) = 3 - 2 \sin(x)$$

Question 4/7

$$f(x) = x^3 - 2x^2 + 3x + 5$$

$$I = \mathbb{R}.$$

$$\text{a) } F(x) = \frac{x^4}{4} - \frac{2x^3}{3} + \frac{3x^2}{2} + 5x + 1$$

$$\text{b) } F(x) = x^4 - 2x^3 + 3x^2 + 5x$$

$$\text{c) } F(x) = 3x^2 - 4x + 3$$

Question 5/7

$$f(x) = \frac{1}{x-3}$$

$$I =]3; +\infty[$$

$$\text{a) } F(x) = -\frac{1}{(x-3)^2}$$

$$\text{b) } F(x) = \ln(x-3)$$

$$\text{c) } F(x) = e^{x-3}$$

Question 6/7

$$f(x) = 3e^{-2x+1}$$

$$I = \mathbb{R}.$$

$$\text{a) } F(x) = -6e^{-2x+1}$$

$$\text{b) } F(x) = 3e^{-2x+1}$$

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Question 7/7

$$f(x) = (2x - 3)^2$$

$$I = \mathbb{R}.$$

$$\text{a) } F(x) = 4(2x - 3)$$

$$\text{b) } F(x) = 4x^2 - 12x + 9$$

$$\text{c) } F(x) = \frac{(2x - 3)^3}{6}$$

CORRIGÉS

Question 1/7

$$f(x) = 3x + 1$$

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