Université Mohamed Boudiaf M'sila (2019/2020) *Le 10/11/2020*
Institut de Gestion des Techniques Urbaines
Département Socle de commun

Mathématiques 02

Corriger l'épreuve de Rattrapage du 2eme Semestre

Ost01

1- *Faux* (1p)
2- *Faux* (1p)
3- *Faux* (1p)
4- *Vrai* (1p)
5- *Vrai* (1p)
6- *Vrai* (1p)

Ost02

1. $\int (3x^2-1)dx = x^3 - x + c.$ (02p)
2. $\int xe^x dx = xe^x - \int e^x dx = (x-1)e^x + c.$ (02p)
3. $\int \sin x \cos x dx = \sin^2 x - \int \cos x \sin x dx \rightarrow \int \sin x \cos x dx = \frac{\sin^2 x}{2} + c.$ (02p)
4. $\int \frac{\cos x}{2\sqrt{\sin x}} dx = \int \frac{1}{2\sqrt{y}} dy = \sqrt{y} + c = \sqrt{\sin x} + c.$ (02p)

Ost03

1. $y' = x \Rightarrow dy = xdx \Rightarrow y = \frac{x^2}{2} + c.$ (02p)
2. $y' = 2xy \Rightarrow \frac{dy}{y} = 2xdx \Rightarrow y = ke^{x^2}.$ (02p)
3. $y' = y \operatorname{ch} x \Rightarrow \frac{dy}{y} = \operatorname{ch} x dx \Rightarrow y = ke^{\operatorname{sh} x}.$ (02p)