اسم المادة : رياضيات-2
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المرحلة : الثانية
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عنوان المحاضرة:

Discussing HWs for Lectures 10-13 مناقشة اسئلة محاضرات 10-13

H.W

(1) Evaluate the integral:

a- $\int_0^2 \int_{-1}^{1} (x-y)\,dy\,dx$

b- $\int_0^1 \int_1^2 xye^x \cdot dy\,dx$

c- $\int_0^{\ln 2} \int_1^{\ln 5} e^{2x+y} \cdot dy\,dx$

(2) Evalute the double integral over the region R

a/ $\iint_R \frac{\sqrt{x}}{y^2}\,dA$ $R: 0 \le x \le 4$ & $1 \le y \le 2$

b/ $\iint_R xy \cos y \cdot dA$ $R: -1 \le x \le 1$ & $0 \le y \le \pi$

c/ $\iint_R \frac{xy^3}{x^2+1} \cdot dA$ $R: 0 \le x < 1$ & $0 \le y \le 2$

(3) Sketch the region of integration and write an equivalent double integral with the order of integration reversed

a/ $\int_0^1 \int_2^{4-2x} \cdot dy\,dx$

b/ $\int_0^1 \int_{1-x}^{1-x^2} \cdot dy\,dx$

c/ $\int_0^1 \int_y^{\sqrt{y}} \cdot dx\,dy$

(4) Sketch the region bounded by the parabolas $x = y^2$ and $x = 2y - y^2$. Then express the region's area as an iterated double integral and evaluate the integral.

(5) Evalute $\int_0^{\ln 2} \int_0^{e^x} \cdot dy\,dx$

11

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(6) A thin plate cover the triangle region bounded by the X-axis and the line $X=1$ and $y=2X$ in the first quarter. The plate density is $\delta(x,y) = 6x+6y+6$. find

a/ The mass of the body.

b/ The center of mass.

c/ The radii of gyration.

(7) Evaluate

a/ $\int_0^1 \int_0^{3-3x} \int_0^{3-3x-y} dz\,dy\,dx$

b/ $\int_0^3 \int_0^{\sqrt{9-x^2}} \int_0^{\sqrt{9-x^2}} dz\,dy\,dx$

c/ $\int_0^{\pi/6} \int_0^1 \int_{-2}^3 y \sin z\,dx\,dy\,dz$

----- نهاية محاضرة " مناقشة اسئلة محاضرات 10- 13 Discussing HWs for Lectures 10- 13" -----

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