

DEPARTMENT OF MATHEMATICAL SCIENCES
MATH 301 Methods of Applied Mathematics Term 061

QUIZ # 2(a)

Name _____ ID # _____ Section # _____

Q1) In the following question, use *Green's theorem* to write R.H.S of the given line integral as a double integral, showing correct integral limits (**Do not evaluate integrals in this question**).

(a) $\oint_C (x^2 + y^2)dx + (x^2 - y^2)dy =$

where C is triangle counterclockwise with vertices A(1,3), B(2,3) and C(2,6).

(b) $\oint_C 4y \sin^2 x dx - 5x \cos^2 y dy =$

Where C is closed counter clockwise by $y = 4 - x^2$, $y - axis$ and $y = x$.

Q2) Evaluate the integral using **Green's theorem** $\oint_C -y dx + x dy$

Where C is $x^2 + y^2 = 1$.

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QUIZ # 2(b)

Name _____ ID # _____ Section # _____

Q1 In the following question, use *Green's theorem* to write R.H.S of the given line integral as a double integral, showing correct integral limits (**Do not evaluate integrals in this question**).

(a) $\oint_C -x^4 y^2 dx + x^2 y^4 dy =$

where C is triangle counterclockwise with vertices A(0,0), B(1,0) and C(1,2).

(b) $\oint_C (2y + x^2)dx - (3x - 4y^2)dy =$

Where C is closed counter clockwise by $y = x^2$, and $x = y^2$.

Q2 Evaluate the integral using **Green's theorem** $\oint_C 4y dx + 5x dy$

Where C is formed by $y = x^2$, and $y = 1$.

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QUIZ # 2(c)

Name _____ ID # _____ Section # _____

Q1) In the following question, use *Green's theorem* to write R.H.S of the given line integral as a double integral, showing correct integral limits (**Do not evaluate integrals in this question**).

(a) $\oint_C x^3 y dx + xy^3 dy =$

where C is triangle counterclockwise with vertices A(-3,1), B(0,1) and C(0,3).

(b) $\oint_C y \sin^2 x dx - x \cos^2 y dy =$

Where C is closed counter clockwise by $y = x^3$, and $x = y$

Q2) Evaluate the integral using **Green's theorem** $\oint_C x^2 dy$

Where C is given by $x^2 + y^2 = 9$.