

King Fahd University of Petroleum and Minerals
Department of Mathematics and Statistics

Math 201 Section#: Serial #: Quiz V(a) (Term 191)

Name : ID #: Marks/6

1. Use the lower left endpoints for the rectangles with $m = n = 2$ to estimate

$$\int \int_R (x + 2y) dA \text{ where } R = \{(x, y) : 0 \leq x \leq 1, 0 \leq y \leq 1\}$$

2. Reverse order of integration and evaluate $\int_0^8 \int_{\sqrt[3]{y}}^2 e^{x^4} dx dy$.

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Math 201 Section#: Serial #: Quiz V(b) (Term 191)

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1. Evaluate $\int_0^4 \int_1^4 \left(\frac{x}{2} + \sqrt{y} \right) dy dx$

2. Use polar coordinates to evaluate $\int_0^1 \int_0^{\sqrt{1-y^2}} \sin(x^2 + y^2) dx dy$

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Math 201 Section#: Serial #: Quiz V(c) (Term 191)

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1. Evaluate $\int_0^1 \int_1^2 \frac{xe^x}{y} dy dx$.

2. Use polar coordinates to find volume of solid bounded by the cylinder $x^2 + y^2 = 4$ and planes $z = 0$ and $y + z = 3$.

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Math 201 Section#: Serial #: Quiz V(d) (Term 191)

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1. Use the midpoint rule with $m = n = 2$ to estimate the value of the integral $\int \int_R (x - y^2) dA$ where R is the rectangle $[0, 2] \times [1, 2]$.

2. Use polar coordinates to evaluate $\int \int_D e^{x^2+y^2} dA$ where D is the unit circle centered at the origin.