Web**Assign**

Yinglai Wang
MA 261 Fall 2012, section 121, Fall 2012
Instructor: David Daniels

Hw 23 (15.7): Triple Integrals (Homework)

Current Score : 20 / 20   **Due :** Tuesday, October 23 2012 11:00 PM EDT

The due date for this assignment is past. Your work can be viewed below, but no changes can be made.

Important! Before you view the answer key, decide whether or not you plan to request an extension. Your Instructor may *not* grant you an extension if you have viewed the answer key. Automatic extensions are not granted if you have viewed the answer key.

View Key

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1. 2/2 points | Previous Answers   SCalcET7 15.7.004.

Evaluate the iterated integral.

$$\int_0^1 \int_x^{2x} \int_0^y 16xyz \; dz \; dy \; dx$$

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2. 2/2 points | Previous Answers   SCalcET7 15.7.007.MI.

Evaluate the iterated integral.

$$\int_0^{\pi/2} \int_0^y \int_0^x 10 \cos(x + y + z) \; dz \; dx \; dy$$

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3. 2/2 points | Previous Answers   SCalcET7 15.7.008.

Evaluate the iterated integral.

$$\int_0^{\sqrt{\pi}} \int_0^{9x} \int_0^{xz} 13x^2 \sin y \; dy \; dz \; dx$$

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4. 2/2 points | Previous Answers   SCalcET7 15.7.009.

Evaluate the triple integral.

$$\iiint_E y \, dV, \text{ where } E = \{(x, y, z) \mid 0 \le x \le 4, \, 0 \le y \le x, \, x - y \le z \le x + y\}$$

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5. 2/2 points | Previous Answers   SCalcET7 15.7.013.

Evaluate the triple integral.

$$\iiint_E 3xy \, dV, \text{ where E lies under the plane } z = 1 + x + y \text{ and above the region in the } xy\text{-plane bounded by the curves } y = \sqrt{x}, \, y = 0, \text{ and } x = 1$$

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6. 2/2 points | Previous Answers   SCalcET7 15.7.014.

Evaluate the triple integral.

$$\iiint_E 3xy \, dV, \text{ where } E \text{ is bounded by the parabolic cylinders } y = x^2 \text{ and } x = y^2 \text{ and the planes } z = 0 \text{ and } z = 7x + y$$

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7. 2/2 points | Previous Answers   SCalcET7 15.7.015.

Evaluate the triple integral.

$$\iiint_T 8x^2 \, dV, \text{ where } T \text{ is the solid tetrahedron with verticies } (0, 0, 0), \, (1, 0, 0), \, (0, 1, 0), \text{ and } (0, 0, 1)$$

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8. 2/2 points | Previous Answers

Evaluate the triple integral.

$$\iiint_E 4x \, dV,$$ where E is bounded by the paraboloid $x = 7y^2 + 7z^2$ and the plane $x = 7$.

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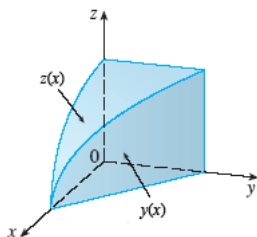
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9. 2/2 points | Previous Answers

Use a triple integral to find the volume of the given solid.

The tetrahedron enclosed by the coordinate planes and the plane $3x + y + z = 5$

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The figure shows the region of integration for the integral.

$$\int_0^9 \int_0^{81-x^2} \int_0^{9-x} f(x, y, z) \, dy \, dz \, dx$$

Rewrite this integral as an equivalent iterated integral in the five other orders. (Assume $y(x) = 9 - x$ and $z(x) = 81 - x^2$.)

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