WebAssign
Hw 21 (15.4): Double Int. in Polar Coordinates (Homework)

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

Current Score : 20 / 20 **Due :** Tuesday, October 16 2012 11:00 PM EDT

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1. 2.22/2.22 points | Previous Answers SCalcET7 15.4.009.

Evaluate the given integral by changing to polar coordinates.

$\iint_R \sin(x^2 + y^2)\, dA$, where R is the region in the first quadrant between the circles with center the origin and radii 3 and 4

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2. 2.22/2.22 points | Previous Answers SCalcET7 15.4.011.

Evaluate the given integral by changing to polar coordinates.

$\iint_D e^{-x^2 - y^2}\, dA$, where D is the region bounded by the semicircle $x = \sqrt{16 - y^2}$ and the y−axis

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3. 2.22/2.22 points | Previous Answers SCalcET7 15.4.014.

Evaluate the given integral by changing to polar coordinates.

$\iint_D x\,dA$, where D is the region in the first quadrant that lies between the circles $x^2 + y^2 = 16$ and $x^2 + y^2 = 4x$

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4. 2.22/2.22 points | Previous Answers SCalcET7 15.4.015.

Use a double integral to find the area of the region.

One loop of the rose $r = 4 \cos 3\theta$

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5. 2.22/2.22 points | Previous Answers SCalcET7 15.4.017.

Use a double integral to find the area of the region.

The region inside the circle $(x - 2)^2 + y^2 = 4$ and outside the circle $x^2 + y^2 = 4$

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6. 2.22/2.22 points | Previous Answers SCalcET7 15.4.022.

Use polar coordinates to find the volume of the given solid.

Inside the sphere $x^2 + y^2 + z^2 = 36$ and outside the cylinder $x^2 + y^2 = 4$

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7. 2.22/2.22 points | Previous Answers SCalcET7 15.4.029.

Evaluate the iterated integral by converting to polar coordinates.

$$\int_{-4}^{4}\int_{0}^{\sqrt{16-x^2}} \sin(x^2 + y^2)\, dy\, dx$$

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8. 2.22/2.22 points | Previous Answers SCalcET7 15.4.030.

Evaluate the iterated integral by converting to polar coordinates.

$$\int_0^a \int_{-\sqrt{a^2 - y^2}}^0 6x^2 y \, dx \, dy$$

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9. 2.24/2.24 points | Previous Answers SCalcET7 15.4.031.

Evaluate the iterated integral by converting to polar coordinates.

$$\int_0^1 \int_y^{\sqrt{2 - y^2}} 6(x + y) \, dx \, dy$$

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