WebAssign
Hw 22 (15.5-6): Appl. Double Int.; Surface Area (Homework)

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

Current Score : 20 / 20 **Due :** Thursday, October 18 2012 11:00 PM EDT

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1. 2.85/2.85 points | Previous Answers SCalcET7 15.5.006.

Find the mass and center of mass of the lamina that occupies the region D and has the given density function ρ.

D is the triangular region enclosed by the lines $x = 0$, $y = x$, and $2x + y = 6$; $\rho(x, y) = 4x^2$

m =

$(\bar{x}, \bar{y})$ = ( )

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2. 2.85/2.85 points | Previous Answers SCalcET7 15.5.007.

Find the mass and center of mass of the lamina that occupies the region D and has the given density function ρ.

D is bounded by $y = 1 - x^2$ and $y = 0$; $\rho(x, y) = 7ky$

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3. 2.85/2.85 points | Previous Answers SCalcET7 15.5.010.

Find the mass and center of mass of the lamina that occupies the region D and has the given density function ρ.

D is bounded by the parabolas $y = x^2$ and $x = y^2$; $\rho(x, y) = 13\sqrt{x}$

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$(\bar{x}, \bar{y}) =$ ✓)

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4. 2.85/2.85 points | Previous Answers SCalcET7 15.5.012.

A lamina occupies the part of the disk $x^2 + y^2 \leq 16$ in the first quadrant. Find the center of mass of the lamina if the density at any point is proportional to the square of its distance from the origin.

$(\bar{x}, \bar{y}) =$ (

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5. 2.85/2.85 points | Previous Answers SCalcET7 15.6.003.

Find the area of the surface.

The part of the plane $13x + 5y + z = 65$ that lies in the first octant

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6. 2.85/2.85 points | Previous Answers SCalcET7 15.6.005.

Find the area of the surface.

The part of the cylinder $y^2 + z^2 = 9$ that lies above the rectangle with vertices (0, 0), (5, 0), (0, 2), and (5, 2)

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7. 2.9/2.9 points | Previous Answers SCalcET7 15.6.007.

Find the area of the surface.

The part of the hyperbolic paraboloid $z = y^2 - x^2$ that lies between the cylinders $x^2 + y^2 = 9$ and $x^2 + y^2 = 16$.

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