WebAssign
Hw 24 (15.8): Triple Int. in Cylindrical Coord. (Homework)

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

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

1. 2/2 points | Previous Answers SCalcET7 15.8.003.

Change from rectangular to cylindrical coordinates. (Let $r \geq 0$ and $0 \leq \theta \leq 2\pi$.)

(a) $(-4, 4, 4)$

(✔)

(b) $(-3, 3\sqrt{3}, 7)$

(✔)

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2. 2/2 points | Previous Answers SCalcET7 15.8.004.

Change from rectangular to cylindrical coordinates. (Let $r \geq 0$ and $0 \leq \theta \leq 2\pi$.)

(a) $(2\sqrt{3}, 2, -4)$

(

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✔)

(b) $(4, -3, 1)$

(

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✔)

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3. 2/2 points | Previous Answers SCalcET7 15.8.009.

Write the equations in cylindrical coordinates.

(a) $3x^2 - 4x + 3y^2 + z^2 = 7$

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✔

(b) $z = 5x^2 - 5y^2$

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✔

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4. 2/2 points | Previous Answers SCalcET7 15.8.010.

Write the equations in cylindrical coordinates.

(a) $5x + 4y + z = 6$

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(b) $-4x^2 - 4y^2 + z^2 = 1$

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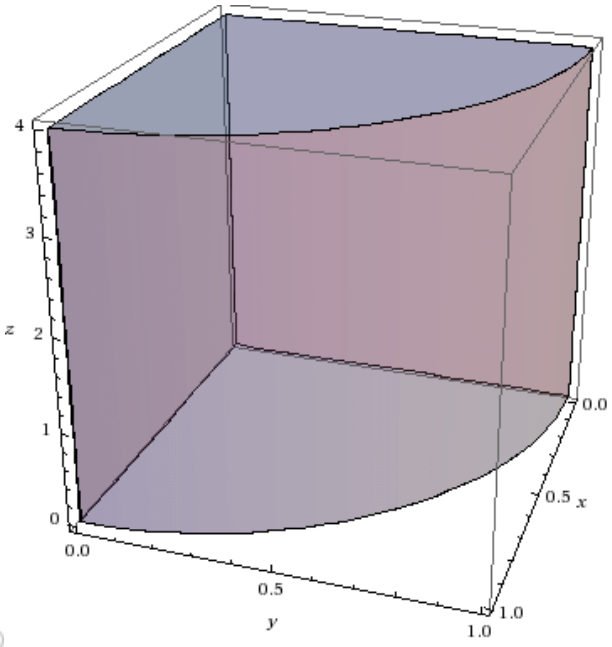
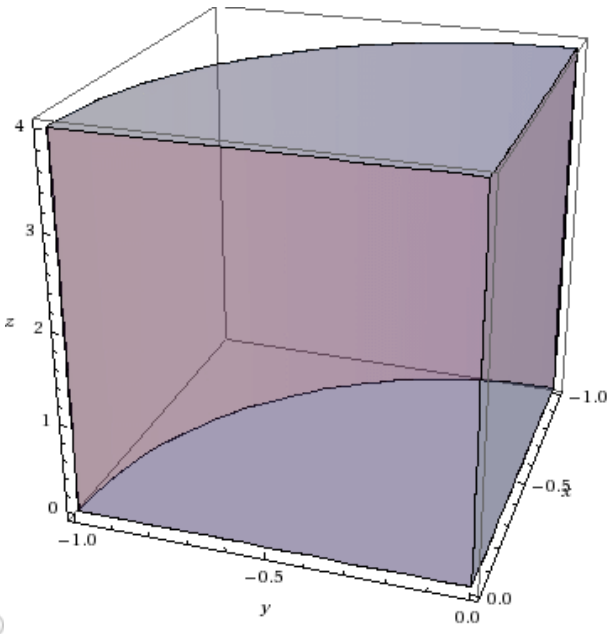
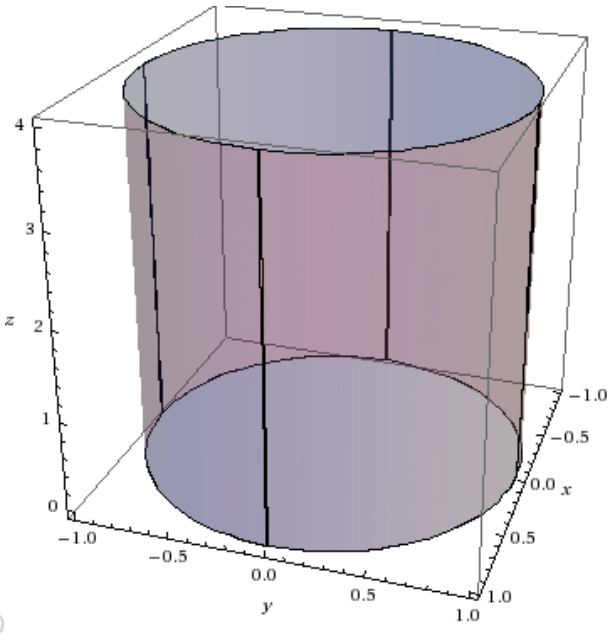
5. 2/2 points | Previous Answers SCalcET7 15.8.011.

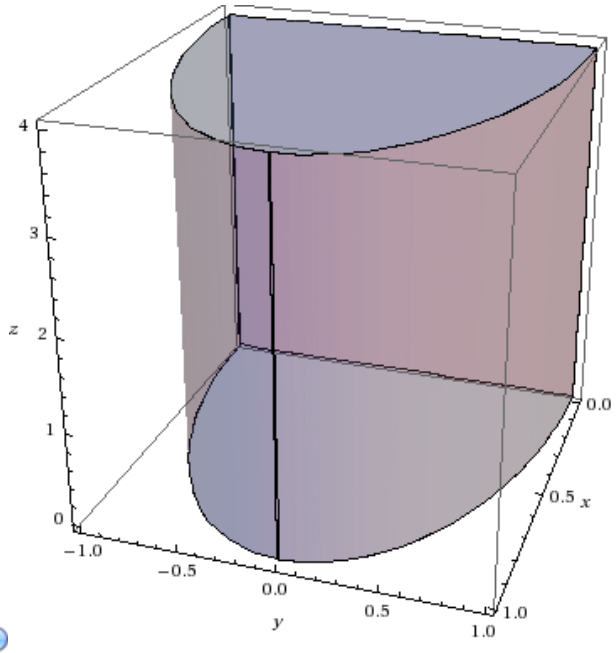
Sketch the solid described by the given inequalities.

$0 \le r \le 1,\ -\pi/2 \le \theta \le \pi/2,\ 0 \le z \le 4.$









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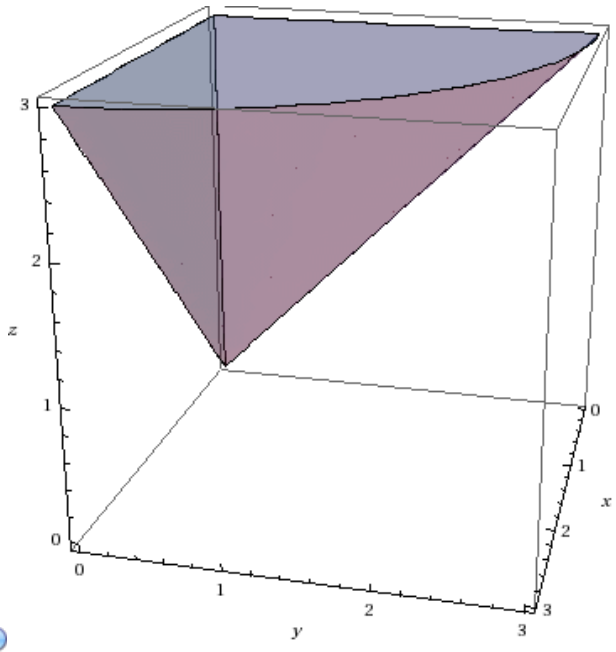
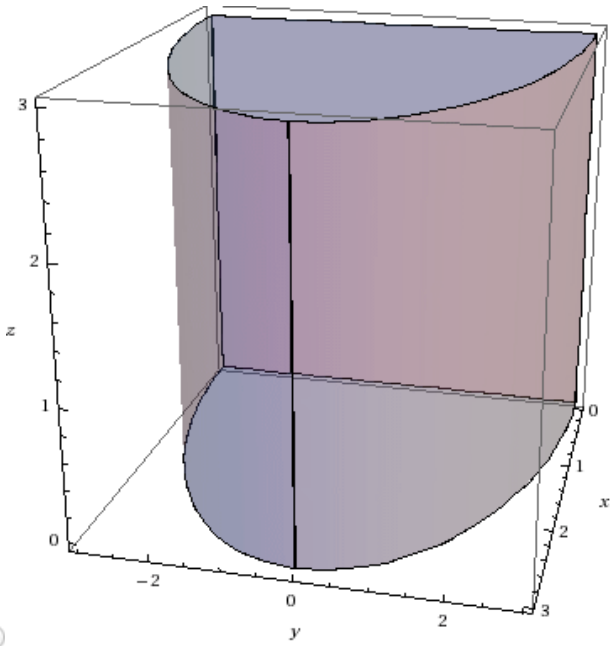
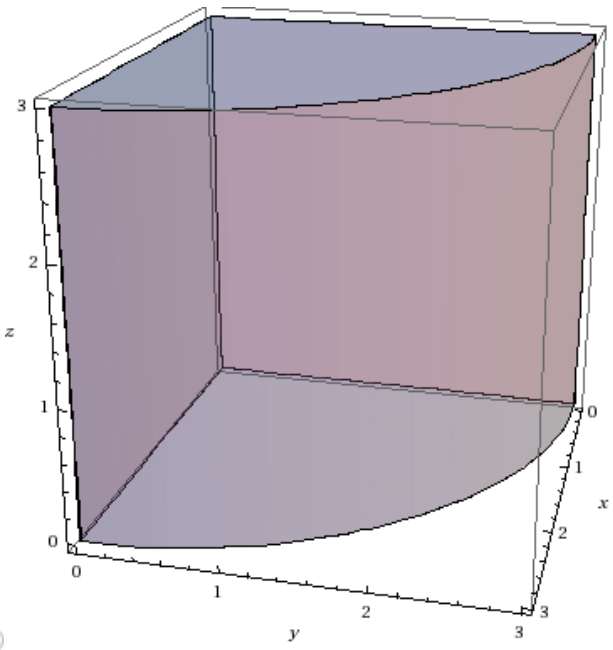
6. 2/2 points | Previous Answers SCalcET7 15.8.012.

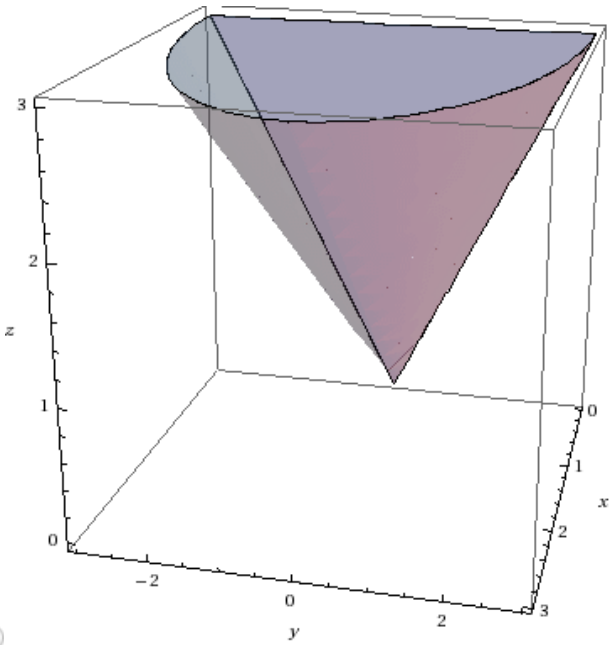
Sketch the solid described by the given inequalities.

$0 \le \theta \le \pi/2,\ r \le z \le 3$









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7. 2/2 points | Previous Answers SCalcET7 15.8.017.

Use cylindrical coordinates.

Evaluate $\iiint_E \sqrt{x^2 + y^2}\, dV$, where E is the region that lies inside the cylinder $x^2 + y^2 = 25$ and between the planes $z = 1$ and $z = 10$.

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8. 2/2 points | Previous Answers SCalcET7 15.8.019.

Use cylindrical coordinates.

Evaluate $\iiint_E (x + y + z)\, dV$, where E is the solid in the first octant that lies under the paraboloid $z = 4 - x^2 - y^2$.

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9. 2/2 points | Previous Answers SCalcET7 15.8.020.

Use cylindrical coordinates.

Evaluate $\iiint_E x\, dV$, where E is enclosed by the planes $z = 0$ and $z = x + y + 10$ and by the cylinders $x^2 + y^2 = 16$ and $x^2 + y^2 = 36$.

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10. 2/2 points | Previous Answers SCalcET7 15.8.029.

Evaluate the integral by changing to cylindrical coordinates.

$$\int_{-6}^{6}\int_{-\sqrt{36-y^2}}^{\sqrt{36-y^2}}\int_{\sqrt{x^2+y^2}}^{9} xz\,dz\,dx\,dy$$

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