WebAssign
Hw 35 (16.7): Surface Integrals (Homework)

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

Current Score : 15 / 20 **Due :** Tuesday, November 27 2012 11:00 PM EST

---

1. 5/5 points | Previous Answers SCalcET7 16.7.020.

Evaluate the surface integral.

$$\iint_S \left(x^2 + y^2 + z^2\right) dS$$

S is the part of the cylinder $x^2 + y^2 = 9$ that lies between the planes $z = 0$ and $z = 2$, together with its top and bottom disks

Need Help? Read It Chat About It

---

2. 0/5 points | Previous Answers SCalcET7 16.7.021.

Evaluate the surface integral $\iint_S \mathbf{F} \cdot d\mathbf{S}$ for the given vector field $\mathbf{F}$ and the oriented surface S. In other words, find the flux of $\mathbf{F}$ across S. For closed surfaces, use the positive (outward) orientation.

$\mathbf{F}(x, y, z) = ze^{xy}\mathbf{i} - 3ze^{xy}\mathbf{j} + xy\mathbf{k}$,
S is the parallelogram of this exercise with upward orientation.

$\iint_S \mathbf{F} \cdot d\mathbf{S} =$

Get ADOBE FLASH PLAYER

Flash Player version 10 or higher is required for this question.
You can get Flash Player free from Adobe's website.

Need Help? Read It Chat About It

3. 5/5 points | Previous Answers SCalcET7 16.7.023.MI.

Evaluate the surface integral $\iint_S \mathbf{F} \cdot d\mathbf{S}$ for the given vector field **F** and the oriented surface *S*. In other words, find the flux of **F** across *S*. For closed surfaces, use the positive (outward) orientation.

$\mathbf{F}(x, y, z) = xy\,\mathbf{i} + yz\,\mathbf{j} + zx\,\mathbf{k}$

S is the part of the paraboloid $z = 8 - x^2 - y^2$ that lies above the square $0 \le x \le 1$, $0 \le y \le 1$, and has upward orientation

Get ADOBE FLASH PLAYER

Flash Player version 10 or higher is required for this question.
You can get Flash Player free from Adobe's website.

Need Help? Read It Watch It Master It Chat About It

4. 5/5 points | Previous Answers SCalcET7 16.7.025.

Evaluate the surface integral $\iint_S \mathbf{F} \cdot d\mathbf{S}$ for the given vector field **F** and the oriented surface *S*. In other words, find the flux of **F** across *S*. For closed surfaces, use the positive (outward) orientation.

$\mathbf{F}(x, y, z) = x\,\mathbf{i} - z\,\mathbf{j} + y\,\mathbf{k}$

S is the part of the sphere $x^2 + y^2 + z^2 = 16$ in the first octant, with orientation toward the origin

Get ADOBE FLASH PLAYER

Flash Player version 10 or higher is required for this question.
You can get Flash Player free from Adobe's website.

Need Help? Read It Watch It Chat About It