


15.7 Integrales Triples (Homework)

Current Score											Due Date Past Due		
QUESTION	1	2	3	4	5	6	7	8	9	10	11	<div><div>TOTAL SCORE</div><div>25.5/20127.5%</div></div> <div>SAT, APR 18, 2020 11:59 PM CST</div> <div><div></div>Request Extension</div>	
POINTS	2/2	2/2	2/2	2/2	2/0	2/2	2/2	4.5/4	2/2	2/2	3/0		
	✓	✓	✓	✓	★	✓	✓	✓	✓	✓	★		

Assignment Submission & Scoring

Assignment Submission

For this assignment, you submit answers by question parts. The number of submissions remaining for each question part only changes if you submit or change the answer.

Assignment Scoring

Your last submission is used for your score.

The due date for this assignment has passed.

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.

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 1. [2/2 POINTS](#) [PREVIOUS ANSWERS](#) SCALCET8 15.6.005.
[MY NOTES](#)[ASK YOUR TEACHER](#)

Evaluate the iterated integral.

$$\int_2^4 \int_0^{2z} \int_0^{\ln(x)} x e^{-y} dy dx dz$$

\$\$763



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2.

2/2 POINTS

PREVIOUS ANSWERS

SCALCET8 15.6.007.

MY NOTES

ASK YOUR TEACHER

Evaluate the iterated integral.

$$\int_0^{\pi} \int_0^2 \int_0^{\sqrt{4-z^2}} z \sin(x) \, dy \, dz \, dx$$

\$\$163



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3.

2/2 POINTS

PREVIOUS ANSWERS

SCALCET8 15.6.009.

MY NOTES

ASK YOUR TEACHER

Evaluate the triple integral.

$$\iiint_E y \, dV, \text{ where } E = \{(x, y, z) \mid 0 \leq x \leq 3, 0 \leq y \leq x, x - y \leq z \leq x + y\}$$

\$\$272



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4.

2/2 POINTS

PREVIOUS ANSWERS

SCALCET8 15.6.013.

MY NOTES

ASK YOUR TEACHER

Evaluate the triple integral.

$$\iiint_E 5xy \, dV, \text{ where } E \text{ lies under the plane } z = 1 + x + y \text{ and above the region in the } xy\text{-plane bounded by the curves } y = \sqrt{x}, y = 0, \text{ and } x = 1$$

\$\$325168



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5.

2/0 POINTS

PREVIOUS ANSWERS

SCALCET8 15.6.014.

MY NOTES

ASK YOUR TEACHER

Evaluate the triple integral.

$$\iiint_E (x - y) \, dV, \text{ where } E \text{ is enclosed by the surfaces } z = x^2 - 1, z = 1 - x^2, y = 0, \text{ and } y = 4$$

\$\$-643



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6.

2/2 POINTS

PREVIOUS ANSWERS

SCALCET8 15.6.020.

MY NOTES

ASK YOUR TEACHER

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

The solid enclosed by the paraboloids $y = x^2 + z^2$ and $y = 32 - x^2 - z^2$.

\$\$256\pi



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7.

2/2 POINTS

PREVIOUS ANSWERS

SCALCET8 15.6.021.

MY NOTES

ASK YOUR TEACHER

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

The solid enclosed by the cylinder $y = x^2$ and the planes $z = 0$ and $y + z = 1$.

\$\$815



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8.

4.5/4 POINTS

PREVIOUS ANSWERS

SCALCET8 15.6.031.

MY NOTES

ASK YOUR TEACHER

Express the integral $\iiint_E f(x, y, z) \, dV$ as an iterated integral in six different ways, where E is the solid bounded by the given surfaces.

$$y = x^2, \quad z = 0, \quad y + 2z = 4$$

\int_{-2}^2	\int_0^4	$\int_0^{4-y^2}$	$f(x, y, z) \, dz \, dy \, dx$
\int_0^4	$\int_{x^2}^{\sqrt{y}}$	$\int_0^{4-y^2}$	$f(x, y, z) \, dz \, dx \, dy$
\int_0^4	$\int_{-\sqrt{y}}^{\sqrt{y}}$	$\int_0^{\sqrt{y}}$	$f(x, y, z) \, dx \, dz \, dy$
\int_0^2	\int_0^{4-2z}	$\int_{-\sqrt{y}}^{\sqrt{y}}$	$f(x, y, z) \, dx \, dy \, dz$
\int_0^2	$\int_0^{4-x^2}$	$\int_{-\sqrt{y}}^{\sqrt{y}}$	$f(x, y, z) \, dy \, dz \, dx$
\int_{-2}^2	\int_0^{4-2z}	$\int_{x^2}^{\sqrt{4-2z}}$	$f(x, y, z) \, dy \, dx \, dz$
\int_0^2	$\int_{-\sqrt{4-2z}}^{\sqrt{4-2z}}$	$\int_{x^2}^{\sqrt{4-2z}}$	

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9.

2/2 POINTS

PREVIOUS ANSWERS

SCALCET8 15.6.502.XP.MI.

MY NOTES

ASK YOUR TEACHER

Evaluate the iterated integral.

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

Answer:



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10.

2/2 POINTS

PREVIOUS ANSWERS

SCALCET8 15.6.505.XP.

MY NOTES

ASK YOUR TEACHER

Evaluate the triple integral.

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

\$\$\$860



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11.

3/0 POINTS

PREVIOUS ANSWERS

SCALCET8 15.6.041.

MY NOTES

ASK YOUR TEACHER

Find the mass and center of mass of the solid E with the given density ρ .
 E is the cube $0 \leq x \leq a$, $0 \leq y \leq a$, $0 \leq z \leq a$; $\rho(x, y, z) = 5x^2 + 5y^2 + 5z^2$.

\$\$\$5a^5

 $m =$



\$\$\$712a, 712a, 712a

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

$$)$$



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