Web**Assign**

Hw 11 (14.3): Partial Derivatives (Homework)

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

Current Score : 20 / 20 **Due :** Tuesday, September 18 2012 11:00 PM EDT

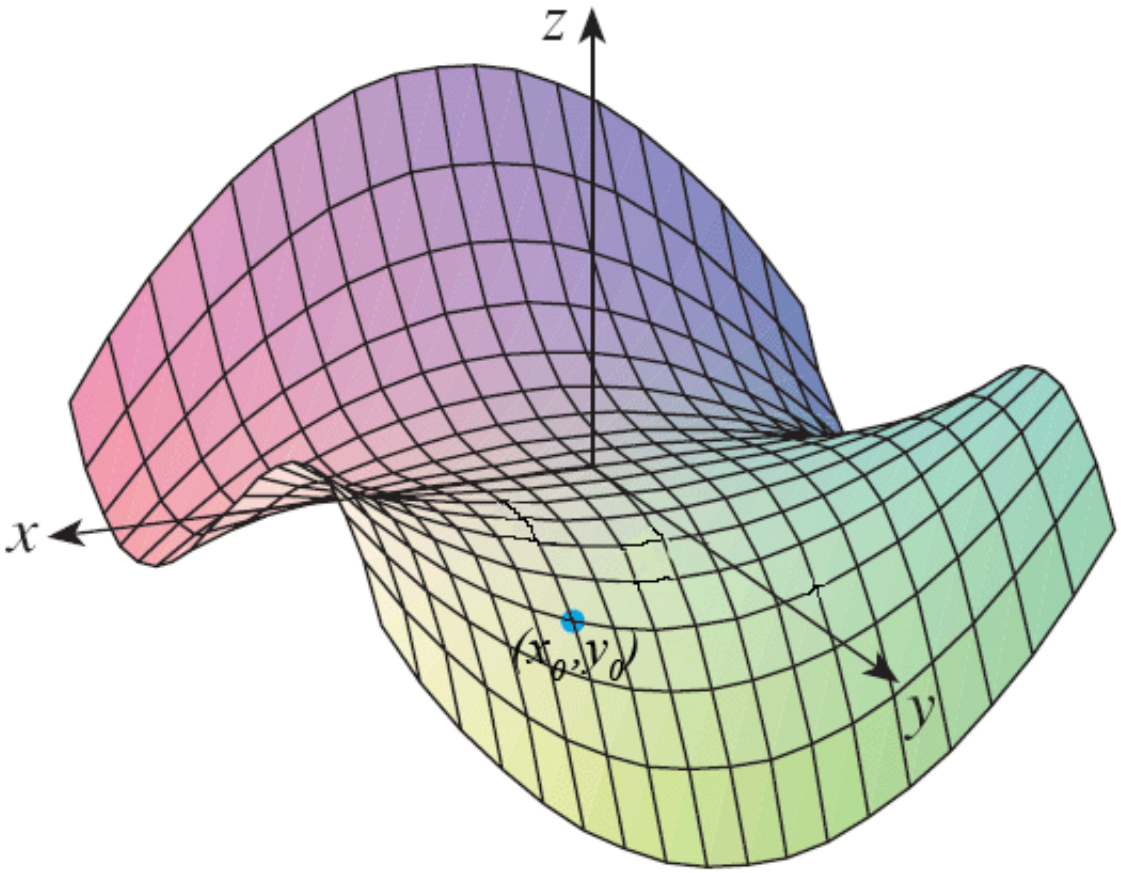
The due date for this assignment is past. Your work can be viewed below, but no changes can be made.

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. 2.22/2.22 points | Previous Answers SCalcET7 14.3.005.

Determine the signs of the partial derivatives for the function f whose graph is shown below.



(a) $f_x(x_0, y_0)$

- (•) positive
- ( ) negative

(b) $f_y(x_0, y_0)$

- ( ) positive
- (•) negative

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2. 2.22/2.22 points | Previous Answers SCalcET7 14.3.016.

Find the first partial derivatives of the function.

$$f(x, y) = x^9y^3 + 9x^4y$$

$f_x(x, y) =$

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$f_y(x, y) =$

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3. 2.22/2.22 points | Previous Answers SCalcET7 14.3.018.

Find the first partial derivatives of the function.

$$f(x, t) = \sqrt{x}\ \ln(t)$$

$f_x(x, t) =$ Flash Player version 10 or higher is required for this question.
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$f_t(x, t) =$ Flash Player version 10 or higher is required for this question.
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4. 2.22/2.22 points | Previous Answers SCalcET7 14.3.020.

Find the first partial derivatives of the function.

$z = 6 \tan xy$

$\frac{\partial z}{\partial x} =$

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$\frac{\partial z}{\partial y} =$

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5. 2.22/2.22 points | Previous Answers SCalcET7 14.3.049.

Use implicit differentiation to find $\partial z/\partial x$ and $\partial z/\partial y$.

$$e^{3z} = xyz$$

$\frac{\partial z}{\partial x} =$ 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.

$\frac{\partial z}{\partial y} =$ 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.

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6. 2.22/2.22 points | Previous Answers SCalcET7 14.3.053.

Find all the second partial derivatives.

$$f(x, y) = x^5y^6 + 3x^5y$$

$f_{xx}(x, y) =$ 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.

$f_{xy}(x, y) =$ 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.

$f_{yx}(x, y) =$

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$f_{yy}(x, y) =$

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7. 2.22/2.22 points | Previous Answers SCalcET7 14.3.056.MI.

Find all the second partial derivatives.

$$v = \frac{xy}{x - y}$$

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

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

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

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8. 2.22/2.22 points | Previous Answers SCalcET7 14.3.065.

Find the indicated partial derivative.

$$f(x, y, z) = e^{xyz^2}; \quad f_{xyz}$$

$f_{xyz}(x, y, z) =$

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9. 2.24/2.24 points | Previous Answers SCalcET7 14.3.068.

Find the indicated partial derivative.

$$z = u\sqrt{v - w}; \quad \frac{\partial^3 z}{\partial u\, \partial v\, \partial w}$$

$\dfrac{\partial^3 z}{\partial u\, \partial v\, \partial w} =$

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