MAT201 ADVANCED CALCULUS

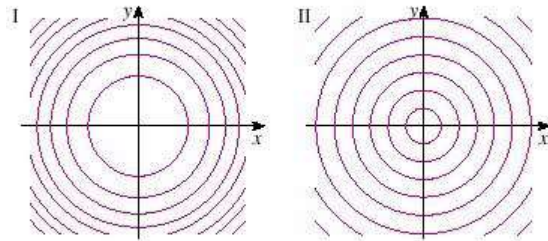|	
Started on	Sunday, 27 December 2020, 11:20 AM
State	Finished
Completed on	Sunday, 27 December 2020, 11:20 AM
Time taken	16 secs
Grade	**0.00** out of 10.00 (**0**%)

Question **1**

Not answered

Marked out of 1.00

Two contour maps are shown. One is for a function f whose graph is a cone. The other is for a function g whose graph is a paraboloid. Which is the contour map of a cone?

Select one:

  ○ a. II

  ○ b. I

  ○ c. Impossible to determine

> Your answer is incorrect.
>
> The correct answer is:
> II

Question **2**

Not answered

Marked out of 1.00

Function $f(x, y) = \frac{1}{5}x^3 + \frac{2}{3}x^2 + 4xy^5 + 25y^9$ is continuous everywhere.

Select one:
- ○ True
- ○ False

The function given is a a polynomial function of two variables.

The correct answer is 'True'.

Question **3**

Not answered

Marked out of 1.00

Describe how the graph of g is obtained from the graph of f if $g(x, y) = f(x + 8, y - 5) + 6$.

Select one:
- ○ a. Shift f 8 units in the positive x-direction, 5 units in the positive y-direction and 6 unit in the positive z-direction
- ○ b. Shift f 8 units in the positive x-direction, 5 units in the negative y-direction and 6 unit in the positive z-direction
- ○ c. Shift f 8 units in the negative x-direction, 5 units in the positive y-direction and 6 unit in the positive z-direction
- ○ d. Shift f 8 units in the negative x-direction, 5 units in the negative y-direction and 6 unit in the positive z-direction

Your answer is incorrect.

The correct answer is:
Shift f 8 units in the negative x-direction, 5 units in the positive y-direction and 6 unit in the positive z-direction

Question **4**

Not answered

Marked out of 1.00

The level curves can be described by the following equation $f(x, y, z) = k + c$ where k and c is a constant.

Select one:

○ True

○ False

The correct answer is 'True'.

Question **5**

Not answered

Marked out of 1.00

If $lim_{x \to 0} f(x, 0) = 0$ and $lim_{y \to 0} f(0, y) = 0$, then $lim_{(x,y) \to (0,0)} f(x, y) = 0$.

Select one:

○ True

○ False

The first two statements only give limit from two directions. While the third one (the conclusion) consider all directions.

The correct answer is 'False'.

Question **6**

Not answered

Marked out of 1.00

The general equation for a plane is in the form of $z = ax + by + c$.

Select one:

○ True

○ False

The equation for a plane should be in the form of

$$z = ax + by + c$$

The correct answer is 'False'.

Question **7**

Not answered

Marked out of 1.00

A function of two variables have six 3rd-order partial derivatives considering Clairaut's Theorem (For example, for 2nd-order partial derivatives, we have $f_{xy} = f_{yx}$).

Select one:

- a. True

- b. False

Your answer is incorrect.

$$f_{xxx}, f_{xxy} = f_{xyx} = f_{yxx}, f_{xyy} = f_{yyx} = f_{yxy}, f_{yyy}$$

The correct answer is:
False

Question **8**

Not answered

Marked out of 1.00

Find $f_y(-18, 6)$ for $f(x, y) = \sin(4x + 12y)$.

Select one:

- a. -12

- b. 12

- c. -4

- d. 4

- e. 0

Your answer is incorrect.

The correct answer is:
12

Question **9**

Not answered

Marked out of 1.00

Find the limit of $f = \dfrac{xy + yz + xz}{xyz - 2}$ as $(x, y, z) \to (4, 3, 1)$.

Select one:

○ a. 0

○ b. 19/10

○ c. 19/11

○ d. 1/2

Your answer is incorrect.

The correct answer is:
19/10

Question **10**

Not answered

Marked out of 1.00

If $lim_{(x,y) \to (0,0)} f(x, y) = 0$, then $lim_{x \to 0} f(x, 0) = 0$.

Select one:
○ True
○ False

The first statement already considered all directions. Thus, the conclusion is true.

The correct answer is 'True'.

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