**Quiz Chapter 11 (B1-SP2011)**

Top of Form

Question 1

Marks: 1

At what points is the given function continuous?f(x, y) = [\displaystyle\frac{x-y}{2x^2+x-6}](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?\displaystyle\frac%7bx-y%7d%7b2x%5e2+x-6%7d)

Choose one answer.

|  |  |  |
| --- | --- | --- |
|  | a. All (x, y) satisfying x - y ≠  0 |  |
|  | b. All (x, y) such that x ≠  3/2 and x ≠  -2 |  |
|  | c. All (x, y) |  |
|  | d. All (x, y) such that x ≠  0 |  |

Question 2

Marks: 1

At what point is the following function a local minimum?   
  
[f(x,y)=8x^2+9y^2](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?f(x,y)=8x%5e2+9y%5e2)

Choose one answer.

|  |  |  |
| --- | --- | --- |
|  | a. (8, 0) |  |
|  | b. (8, 9) |  |
|  | c. (-8, 0) |  |
|  | d. (9, 0) |  |
|  | e. (0, 0) |  |

Question 3

Marks: 1

Find all the first order partial derivatives for the following function.f(x, y) = [\displaystyle\frac{1}{\sqrt{x^2+y^2}}](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?\displaystyle\frac%7b1%7d%7b\sqrt%7bx%5e2+y%5e2%7d%7d)

Choose one answer.

|  |  |  |
| --- | --- | --- |
|  | a. [\partial f/\partial x=-\frac{x}{(x^2+y^2)^{3/2}};\,\, \partial f/\partial y =-\frac{y}{(x^2+y^2)^{3/2}}](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?\partial+f/\partial+x=-\frac%7bx%7d%7b(x%5e2+y%5e2)%5e%7b3/2%7d%7d;\,\,+\partial+f/\partial+y+=-\frac%7by%7d%7b(x%5e2+y%5e2)%5e%7b3/2%7d%7d) |  |
|  | b. [\partial f/\partial x=-\frac{x}{2(x^2+y^2)^{3/2}};\,\, \partial f/\partial y =-\frac{y}{2(x^2+y^2)^{3/2}}](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?\partial+f/\partial+x=-\frac%7bx%7d%7b2(x%5e2+y%5e2)%5e%7b3/2%7d%7d;\,\,+\partial+f/\partial+y+=-\frac%7by%7d%7b2(x%5e2+y%5e2)%5e%7b3/2%7d%7d) |  |
|  | c. [\partial f/\partial x=-\frac{1}{2(x^2+y^2)^{3/2}};\,\, \partial f/\partial y =-\frac{1}{2(x^2+y^2)^{3/2}}](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?\partial+f/\partial+x=-\frac%7b1%7d%7b2(x%5e2+y%5e2)%5e%7b3/2%7d%7d;\,\,+\partial+f/\partial+y+=-\frac%7b1%7d%7b2(x%5e2+y%5e2)%5e%7b3/2%7d%7d) |  |
|  | d. [\partial f/\partial x=\frac{x}{2(x^2+y^2)^{3/2}};\,\, \partial f/\partial y =\frac{y}{2(x^2+y^2)^{3/2}}](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?\partial+f/\partial+x=\frac%7bx%7d%7b2(x%5e2+y%5e2)%5e%7b3/2%7d%7d;\,\,+\partial+f/\partial+y+=\frac%7by%7d%7b2(x%5e2+y%5e2)%5e%7b3/2%7d%7d) |  |

Question 4

Marks: 1

Find the derivative of the function [f(x,y)=x^2+xy+y^2](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?f(x,y)=x%5e2+xy+y%5e2)at the point (6,7) in the direction in which the function decreases most rapidly.

Choose one answer.

|  |  |  |
| --- | --- | --- |
|  | a. [-\sqrt{659}](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?-\sqrt%7b659%7d) |  |
|  | b. [-3\sqrt{86}](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?-3\sqrt%7b86%7d) |  |
|  | c. [-\sqrt{659}](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?-\sqrt%7b659%7d) |  |
|  | d. [-\sqrt{761}](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?-\sqrt%7b761%7d) |  |

Question 5

Marks: 1

Find the limit.

[\displaystyle\lim_{(x,y)\to (11,13)} \sqrt{\frac{1}{xy}}](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?\displaystyle\lim_%7b(x,y)\to+(11,13)%7d+\sqrt%7b\frac%7b1%7d%7bxy%7d%7d)

Choose one answer.

|  |  |  |
| --- | --- | --- |
|  | a. [\sqrt{143}](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?\sqrt%7b143%7d) |  |
|  | b. No limit |  |
|  | c. 143 |  |
|  | d. [\sqrt{143}/143](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?\sqrt%7b143%7d/143) |  |

Question 6

Marks: 1

Evaluate [\frac{\partial w}{\partial v}](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?\frac%7b\partial+w%7d%7b\partial+v%7d)at (u, v) = (5, 5) for the function w(x, y) = xy2 - ln x; x = eu+v, y = uv.

Choose one answer.

|  |  |  |
| --- | --- | --- |
|  | a. -1 |  |
|  | b. 750e10 - 1 |  |
|  | c. 1875e10 - 1 |  |
|  | d. 875e10 - 1 |  |