**Advanced Mathematics 1 (Examination Office)**

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**Quiz Chapter 12**

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Question 1

Marks: 1

Evaluate the integral.  
  
[\int_0^{8\pi}\int_0^{10}\int_{-\sqrt{100-r^2}}^{\sqrt{100-r^2}}dz\, rdr\, d\theta](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?\int_0%5e%7b8\pi%7d\int_0%5e%7b10%7d\int_%7b-\sqrt%7b100-r%5e2%7d%7d%5e%7b\sqrt%7b100-r%5e2%7d%7ddz\,+rdr\,+d\theta)

Choose one answer.

|  |  |  |
| --- | --- | --- |
|  | a. 432π |  |
|  | b. 16000π/3 |  |
|  | c. 4001π |  |
|  | d. 4000π |  |

Question 2

Marks: 1

Evaluate the integral.  
  
[\int_0^1\int_{5y}^1 dxdy](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?\int_0%5e1\int_%7b5y%7d%5e1+dxdy)

Choose one answer.

|  |  |  |
| --- | --- | --- |
|  | a. 3 |  |
|  | b. - 2 |  |
|  | c. -3/2 |  |
|  | d. 7/2 |  |

Question 3

Marks: 1

Find the volume of the given solid over the indicated region of integration.   
  
f(x, y) = x where R is the region given by 0 ≤ x ≤ 4 and 0 ≤ y ≤ 16 - x2

Choose one answer.

|  |  |  |
| --- | --- | --- |
|  | a. 16 |  |
|  | b. 64 |  |
|  | c. 64/3 |  |
|  | d. 256/3 |  |

Question 4

Marks: 1

Evaluate the integral.  
  
[\int_0^2\int_0^9 (x+y)dxdy](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?\int_0%5e2\int_0%5e9+(x+y)dxdy)

Choose one answer.

|  |  |  |
| --- | --- | --- |
|  | a. 99 |  |
|  | b. 693 |  |
|  | c. 11/2 |  |
|  | d. 77/2 |  |

Question 5

Marks: 1

Evaluate the integral.  
  
[\int_0^\pi\int_0^2\int_0^{7/r} \sin\theta\, dz\, rdr\, d\theta](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?\int_0%5e\pi\int_0%5e2\int_0%5e%7b7/r%7d+\sin\theta\,+dz\,+rdr\,+d\theta)

Choose one answer.

|  |  |  |
| --- | --- | --- |
|  | a. 42π |  |
|  | b. 14π |  |
|  | c. 42 |  |
|  | d. 28 |  |

Question 6

Marks: 1

Evaluate the integral.

[ \int_0^{6\pi}\int_0^{15\pi} (\sin x+\cos y)dxdy ](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?+\int_0%5e%7b6\pi%7d\int_0%5e%7b15\pi%7d+(\sin+x+\cos+y)dxdy+)

Choose one answer.

|  |  |  |
| --- | --- | --- |
|  | a. 7π |  |
|  | b. 12π |  |
|  | c. 6π |  |
|  | d. 13π |  |





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