**Quiz Chapter 7 (B1-SP2011)**

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Question 1

Marks: 1

Solve the differential equation.

[\frac{dy}{dx}=\frac{e^{2x}}{6y^5}](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?\frac%7bdy%7d%7bdx%7d=\frac%7be%5e%7b2x%7d%7d%7b6y%5e5%7d)

Choose one answer.

|  |  |  |
| --- | --- | --- |
|  | a. [y=\pm\sqrt[6]{e^{2x}/2}](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?y=\pm\sqrt%5b6%5d%7be%5e%7b2x%7d/2%7d) |  |
|  | b. [y=\pm\sqrt[6]{e^{2x}+C}](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?y=\pm\sqrt%5b6%5d%7be%5e%7b2x%7d+C%7d) |  |
|  | c. [y=\pm\sqrt[6]{e^{2x}/2+C}](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?y=\pm\sqrt%5b6%5d%7be%5e%7b2x%7d/2+C%7d) |  |
|  | d. [y=\pm\sqrt[6]{e^{2x}}](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?y=\pm\sqrt%5b6%5d%7be%5e%7b2x%7d%7d) |  |

Question 2

Marks: 1

Find the volume of the solid obtained by rotating the region in the first quadrant bounded by [y=x^2](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?y=x%5e2)and [y=9](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?y=9)about the *y*-axis.

Choose one answer.

|  |  |  |
| --- | --- | --- |
|  | a. [83\pi/4](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?83\pi/4) |  |
|  | b. [81\pi/4](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?81\pi/4) |  |
|  | c. [81\pi/2](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?81\pi/2) |  |
|  | d. [82\pi/3](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?82\pi/3) |  |

Question 3

Marks: 1

Find the area of the region bounded by the hyperbola [9x^2-4y^2=36](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?9x%5e2-4y%5e2=36)and the line *x* = 4.

Choose one answer.

|  |  |  |
| --- | --- | --- |
|  | a. None of these |  |
|  | b. [6(2\sqrt{3}-\ln(2+\sqrt{3}))](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?6(2\sqrt%7b3%7d-\ln(2+\sqrt%7b3%7d))) |  |
|  | c. [12\sqrt{3}-4\ln(2+\sqrt{3})](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?12\sqrt%7b3%7d-4\ln(2+\sqrt%7b3%7d)) |  |
|  | d. [2\sqrt{3}-\ln(2+\sqrt{3})](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?2\sqrt%7b3%7d-\ln(2+\sqrt%7b3%7d)) |  |

Question 4

Marks: 1

Find the arc length of the curve[y=(e^x+e^{-x}) /2, \, 0\le x\le 1](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?y=(e%5ex+e%5e%7b-x%7d)+/2,+\,+0\le+x\le+1). Round your answer to 4 decimal places.

Choose one answer.

|  |  |  |
| --- | --- | --- |
|  | a. 1.7215 |  |
|  | b. 1.1752 |  |
|  | c. 1.5431 |  |
|  | d. None of the other choices is correct |  |
|  | e. 0.5431 |  |

Question 5

Marks: 1

The region [\{(x,y)|x\geq -5,\, 0\leq y\leq e^{-x/3}\}](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?\%7b(x,y)|x\geq+-5,\,+0\leq+y\leq+e%5e%7b-x/3%7d\%7d)is represented below.  
  
Find the area of this region.   
  
  
  
Select the correct answer.

Choose one answer.

|  |  |  |
| --- | --- | --- |
|  | a. 15.89 |  |
|  | b. 15.88 |  |
|  | c. 15.87 |  |
|  | d. 16.08 |  |

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