**Chapter test 7**

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Question 1

Marks: 1

Use calculus to find the area of the triangle with the given vertices.

Choose one answer.

|  |  |  |
| --- | --- | --- |
|  | a. 7.5 |  |
|  | b. 6.5 |  |
|  | c. 7 |  |
|  | d. 8 |  |

Question 2

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. [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)) |  |
|  | b. [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)) |  |
|  | c. None of these |  |
|  | d. [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))) |  |

Question 3

Marks: 1

A curve passes through the point (4, 2) and has the property that the slope of the curve at every point *P* is 3 times the *y*-coordinate *P*. What is the equation of the curve?

Choose one answer.

|  |  |  |
| --- | --- | --- |
|  | a. [y=(1/2)e^{3x-12}](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?y=(1/2)e%5e%7b3x-12%7d) |  |
|  | b. [y=2e^{3x+12}](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?y=2e%5e%7b3x+12%7d) |  |
|  | c. [y=2e^{3x-12}](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?y=2e%5e%7b3x-12%7d) |  |
|  | d. [y=2e^{3x-4}](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?y=2e%5e%7b3x-4%7d) |  |

Question 4

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

Question 5

Marks: 1

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

Choose one answer.

|  |  |  |
| --- | --- | --- |
|  | a. 12.53 |  |
|  | b. 13.86 |  |
|  | c. 11.86 |  |
|  | d. 11.47 |  |

Question 6

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}}](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?y=\pm\sqrt%5b6%5d%7be%5e%7b2x%7d%7d) |  |
|  | c. [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) |  |
|  | d. [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) |  |

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