**Quiz Chapter 4 (B1-SP2011)**

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Question 1

Marks: 1

Find the derivative of the function.

[g(x)=\int_1^x\sqrt{2+7t}\, dt](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?g%28x%29%3D%5Cint_1%5Ex%5Csqrt%7B2%2B7t%7D%5C%2C+dt)

Choose one answer.

|  |  |  |
| --- | --- | --- |
|  | a. [\sqrt{2+7x}-1](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?%5Csqrt%7B2%2B7x%7D-1) |  |
|  | b. [\sqrt{2+7x}](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?%5Csqrt%7B2%2B7x%7D) |  |
|  | c. [\sqrt{2+7x}-2](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?%5Csqrt%7B2%2B7x%7D-2) |  |
|  | d. [\sqrt{2+7x}-3](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?%5Csqrt%7B2%2B7x%7D-3) |  |

Question 2

Marks: 1

Evaluate the indefinite integral.

[\int\sec^2 x\tan x\, dx](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?%5Cint%5Csec%5E2+x%5Ctan+x%5C%2C+dx)

Choose one answer.

|  |  |  |
| --- | --- | --- |
|  | a. [2\sec^2 x+C](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?2%5Csec%5E2+x%2BC) |  |
|  | b. [(1/2)\sec^2 x+C](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?%281%2F2%29%5Csec%5E2+x%2BC) |  |
|  | c. None of these |  |
|  | d. [\tan^2 x+C](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?%5Ctan%5E2+x%2BC) |  |

Question 3

Marks: 1

An animal population is increasing at a rate of 13+51t per year (where *t* is measured in years). By how much does the animal population increase between the fourth and tenth years?

Choose one answer.

|  |  |  |
| --- | --- | --- |
|  | a. 4,362 |  |
|  | b. 2,064 |  |
|  | c. 2,220 |  |
|  | d. 2,100 |  |
|  | e. 2,155 |  |

Question 4

Marks: 1

Evaluate the indefinite integral.

[\int\cos^4 x\sin x\, dx](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?%5Cint%5Ccos%5E4+x%5Csin+x%5C%2C+dx)

Choose one answer.

|  |  |  |
| --- | --- | --- |
|  | a. [(-1/5)\cos^5 x+C](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?%28-1%2F5%29%5Ccos%5E5+x%2BC) |  |
|  | b. [(1/5)\cos^5 x+C](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?%281%2F5%29%5Ccos%5E5+x%2BC) |  |
|  | c. [(1/5)\sin^5 x+C](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?%281%2F5%29%5Csin%5E5+x%2BC) |  |
|  | d. [(-1/5)\sin^5 x+C](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?%28-1%2F5%29%5Csin%5E5+x%2BC) |  |

Question 5

Marks: 1

Use the Midpoint Rule with *n* = 5 to approximate the integral.

[\int_0^{10}2\sin\sqrt{q}dq](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?%5Cint_0%5E%7B10%7D2%5Csin%5Csqrt%7Bq%7Ddq)

The choices are rounded to 3 decimal places.

Choose one answer.

|  |  |  |
| --- | --- | --- |
|  | a. 9.998 |  |
|  | b. 5.781 |  |
|  | c. 12.929 |  |
|  | d. 4.781 |  |

Question 6

Marks: 1

Let [\int_1^3 f(x) dx=2, \, \int_1^2 f(x) dx=-5\,\, ](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?%5Cint_1%5E3+f%28x%29+dx%3D2%2C+%5C%2C+%5Cint_1%5E2+f%28x%29+dx%3D-5%5C%2C%5C%2C+).   
  
Find [\int_2^3 f(x)dx](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?%5Cint_2%5E3+f%28x%29dx).

Choose one answer.

|  |  |  |
| --- | --- | --- |
|  | a. -7 |  |
|  | b. 3 |  |
|  | c. None of the other choices is correct |  |
|  | d. 7 |  |
|  | e. -3 |  |

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