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

Top of Form

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Question 1

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

Question 2

Marks: 1

Let [\int_1^3f(x)dx=3,\,\, \int_{-2}^1 f(x) dx=4](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?%5Cint_1%5E3f%28x%29dx%3D3%2C%5C%2C%5C%2C+%5Cint_%7B-2%7D%5E1+f%28x%29+dx%3D4).  
  
Find [\int_3^{-2} f(x) dx](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?%5Cint_3%5E%7B-2%7D+f%28x%29+dx).

Choose one answer.

|  |  |  |
| --- | --- | --- |
|  | a. 7 |  |
|  | b. -1 |  |
|  | c. -7 |  |
|  | d. 1 |  |
|  | e. None of the other choices is correct |  |

Question 3

Marks: 1

Evaluate the integral.

[\int_0^3(6+6y-y^2)\, dy](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?%5Cint_0%5E3%286%2B6y-y%5E2%29%5C%2C+dy)

Choose one answer.

|  |  |  |
| --- | --- | --- |
|  | a. -18 |  |
|  | b. 54 |  |
|  | c. -12 |  |
|  | d. 36 |  |
|  | e. 45 |  |

Question 4

Marks: 1

Find the derivative of the function.

[g(x)=\int_{x}^{7x}\cos(t^3) dt](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?g%28x%29%3D%5Cint_%7Bx%7D%5E%7B7x%7D%5Ccos%28t%5E3%29+dt)

Choose one answer.

|  |  |  |
| --- | --- | --- |
|  | a. [\cos((7x)^3)+\cos(x^3)](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?%5Ccos%28%287x%29%5E3%29%2B%5Ccos%28x%5E3%29) |  |
|  | b. [7\cos((7x)^3)-3x^2\cos(x^3)](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?7%5Ccos%28%287x%29%5E3%29-3x%5E2%5Ccos%28x%5E3%29) |  |
|  | c. [7\cos((7x)^3)- \cos(x^3)](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?7%5Ccos%28%287x%29%5E3%29-+%5Ccos%28x%5E3%29) |  |
|  | d. None of these |  |
|  | e. [7\cos((7x)^3)+ 3x^2\cos(x^3)](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?7%5Ccos%28%287x%29%5E3%29%2B+3x%5E2%5Ccos%28x%5E3%29) |  |

Question 5

Marks: 1

Evaluate the indefinite integral.

[\int\sec^6 x\tan x\, dx](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?%5Cint%5Csec%5E6+x%5Ctan+x%5C%2C+dx)

Choose one answer.

|  |  |  |
| --- | --- | --- |
|  | a. [(1/5)\sec^6 x+C](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?%281%2F5%29%5Csec%5E6+x%2BC) |  |
|  | b. [(1/3)\sec^6 x+C](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?%281%2F3%29%5Csec%5E6+x%2BC) |  |
|  | c. [(1/6)\sec^6 x+C](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?%281%2F6%29%5Csec%5E6+x%2BC) |  |
|  | d. [(1/4)\sec^6 x+C](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?%281%2F4%29%5Csec%5E6+x%2BC) |  |

Question 6

Marks: 1

Use the Midpoint Rule with *n* = 4 to approximate the integral.

[\int_1^2\sqrt{4+t^2}dt](http://cms.fpt.edu.vn/elearning/filter/tex/displaytex.php?%5Cint_1%5E2%5Csqrt%7B4%2Bt%5E2%7Ddt)

Choose one answer.

|  |  |  |
| --- | --- | --- |
|  | a. 1.85 |  |
|  | b. 4.24 |  |
|  | c. 2.99 |  |
|  | d. 2.51 |  |

Bottom of Form