Please submit your Homework 5 assignment as a Word or PDF attachment.

Homework 5 (all problems are in the textbook):

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***page 229 # 1, 2***

complete two iterations of newtons method to approximate a zero of the function using the given initial guess.

$1) f(x)=x^{2}-5, x\_{1}=2.2$

2) $f\left(x\right)=x^{3}-3, x\_{1}=1.4$

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find the tangent line approximation T to the graph F at the given point use this linear approximation to complete the table.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| x | 1.9 | 1.99 | 2 | 2.01 | 2.1 |
| f(x) |  |  |  |  |  |
| T(x) |  |  |  |  |  |

1) $f\left(x\right)=x^{2}, \left(2,4\right)$

5) $f\left(x\right)=\sin(x, \left(2,\sin(x)\right))$

Use the information to evaluate and compare $∆y and dy$

8) function $y=6-2x^{2}$ value x= -2 differential of x $Δx=ⅆx=0.01$

10) function $y=2^{-}-x^{4}$ value x= 2 differential $Δx=dx=0.01$

Find the differential dy of the given function

12) $y=3x^{^{2}/\_{3}}$

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find the indefinite integral and check the result by differentiation

11) $∫\left(x+7\right)ⅆx$

13) $∫\left(x^{5}+1\right)ⅆx$

16) $∫\left(\sqrt{x}+\frac{1}{2\sqrt{x}}\right)ⅆx$

18) $∫\left(\sqrt[4]{x^{3}}+1\right)ⅆx$

21) $∫\frac{x+6}{\sqrt{x}}ⅆx$

23) $∫\left(x+1\right)\left(3x-2\right)ⅆx$

26) $∫\left(t^{2}-\cos(t)\right)ⅆt$

28) $∫\left(θ^{α}+sⅇC^{2}θ\right)ⅆθ$

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use the summation capabilities of a graphing utility to verify your result

1) $\sum\_{i=1}^{6}\left(3i+2\right)$

Use sigma notation to write the sum

8) $\frac{9}{I+1}+\frac{9}{1+2}+\frac{9}{1+3}+…+\frac{9}{1+14}$

Use the properties of summation and theorem to evaluate the sum. Use the summation capabilities graphing of a graphing utility to verify your result.

18) $\sum\_{i=1}^{10}\left(i^{2}-i\right)$

Use left and right endpoints and the given number of rectangles to find two approximations of the area of the region between the graph of the function ans the x-axis over the given interval

25) $-f\left(x\right)^{-}=2x+5, \left[0,2\right]$, 4 rectangles

Use the limit prosses to find the area of the region bounded by the graph of the function and the x-axis over the given interval sketch the region

50) $y=4-x^{2}, \left[-2,2\right]$