Calculus AB Ciphering

Haynes Mu Alpha Theta 2019

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| 1. Find $\lim_{x \to -6} \frac{x+6}{x^2+3x-18}$ | |
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| | Code: |
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| 1. Find $\lim_{x \to -6} \frac{x+6}{x^2+3x-18}$ | Code: |
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| 1 Find $\lim_{x \to 6} x + 6$ | |
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| 2. Find the derivative of $g(x) = x^3 cos(2x)$ | |
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| 3. Approximate | $\int_{0}^{10} x^{2} dx$ using a Left-Riemann sum with 5 subinte | rvals. |
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| 3. Approximate | $\int_{0}^{1} x^{2} dx$ using a Left-Riemann sum with 5 subinte | rvals. |
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| 3. Approximate | $\int_{0}^{10} x^{2} dx$ using a Left-Riemann sum with 5 subinte | rvals. |
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| 3. Approximate | $\int_{0}^{10} x^{2} dx$ using a Left-Riemann sum with 5 subinte | rvals. |
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| 4. Find the tangent line to $y = x^2 + sin(\frac{\pi}{2}x)$ at $x = 3$ (use slope-intercept form) | | |
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| 4. Find the tangent line to $y = x^2 + sin(\frac{\pi}{2}x)$ at $x = 3$ (use slope-intercept form) | | |
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| 5. The radius of a sphere is increasing at a constant rate of $3 ft/s$. At what rate is the volume increasing when the radius of the sphere is $5 ft$? (give an exact answer with units) | |
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| 5. The radius of a sphere is increasing at a constant when the radius of the sphere is $5 ft$? (give an exact) | rate of $3 ft/s$. At what rate is the volume increasing ct answer with units) |
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| 6. Evaluate $\int_{0}^{\pi/9} sec^{2}(3x) dx$ | |
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| 6. Evaluate $\int_{0}^{\pi/9} \sec^2(3x) dx$ | |
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| 6. Evaluate $\int_{0}^{\pi/9} sec^{2}(3x) dx$ | |
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| 6. Evaluate $\int_{0}^{\pi/9} \sec^2(3x) dx$ | |
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| the fourth side. If Andrew has 80 feet of fencing, what is the maxim | Code: | |
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| 7. Farmer Andrew is making a garden. He will put fencing on 3 side the fourth side. If Andrew has 80 feet of fencing, what is the maxim | num possible area of his garden? | |
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| 7. Farmer Andrew is making a garden. He will put fencing on 3 side the fourth side. If Andrew has 80 feet of fencing, what is the maxim | | |
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| | Code: | |
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| | $\int_{0}^{25} x^6 \sin(39x^7) dx$ | |
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| | -25 | Code: |
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| 8. Evaluate | $\int_{-25}^{25} x^6 \sin(39x^7) dx$ | |
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| 8. Evaluate | $\int_{0}^{25} x^6 \sin(39x^7) dx$ | |
| | -25 | Code: |
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| 8. Evaluate | $\int_{-25}^{25} x^6 \sin(39x^7) dx$ | |
| | -25 | Code: |
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| 9. Hassan Malik needs help finding the 2nd derivative of $f(x)$ = help him out? | $f(csc^{-1}(tan^3(sin^{-1}(\sqrt{x}))))$ at $x = 3$. Can you |
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| | Code: |
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| 9. Hassan Malik needs help finding the 2nd derivative of $f(x)$ = help him out? | $csc^{-1}(tan^3(sin^{-1}(\sqrt{x})))$ at $x = 3$. Can you |
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| 9. Hassan Malik needs help finding the 2nd derivative of $f(x)$ = help him out? | $csc^{-1}(tan^3(sin^{-1}(\sqrt{x})))$ at $x = 3$. Can you |
| neip inin out. | Code: |
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| 10. Evaluate $\lim_{n\to\infty} \sum_{i=1}^{n} \frac{\pi cos(\pi + \frac{\pi i}{n})}{n}$ | |
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| $n \rightarrow \infty$ $i=1$ | Code: |
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| 10. Evaluate $\lim_{n\to\infty} \sum_{i=1}^{n} \frac{\pi cos(\pi + \frac{\pi i}{n})}{n}$ | |
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| 10. Evaluate $\lim_{n\to\infty} \sum_{i=1}^{n} \frac{\pi \cos(\pi + \frac{\pi i}{n})}{n}$ | |
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| | Code: |
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Calculus AB Ciphering Solution Key

(Note: units are not required unless the answer says [units required]; if provided, however, units must be correct)

- 1. -1/9
- 2. $3x^2\cos(2x) 2x^3\sin(2x)$
- 3. 240
- 4. y = 6x 10
- 5. $300\pi ft^3/s$ [units required]
- 6. $\sqrt{3}/3$ or $1/\sqrt{3}$
- 7. $800 (ft^2)$
- 8. 0
- 9. "No" or "not in domain" or DNE
- 10.0