Calc 1 Final Exam Review YouTube Playlist Guide

MAC2311 Calculus 1 Practice Final Exam A

0:00 5.6 L'Hopitals Rule $\lim_{x \to 1} \frac{x^8-1}{x^4-1}$

1:49 3.6 Related Rates Water leaking forms a circular pool

7:07 3.5 Logarithmic Differentiation $y=x^{2x}$

MAC2311 Calculus 1 Practice Final Exam B

0:00 5.5 Integration by Substitution $\int \pi \sin(\pi x)\,dx$

2:13 5.5 Integration by Substitution $\int \cos(5x)\,dx$

5:29 5.5 Integration by Substitution $\int \cos(5x)\,dx$

7:59 5.4 Second Fundamental Theorem of Calculus $F(x)=\int_{-3}^{x} (t^2+2t+3)\,dt$

MAC2311 Calculus 1 Practice Final Exam C

0:00 7.1 Area Between to Curves $f(x)=2x^2-6x-10;$ $g(x)=8-9x-x^2;$ $x=0;$ $x=2$

12:06 7.1 Area Between to Curves $f(x)=9-x^2;$ $g(x)=2x-4;$ $x=0;$ $x=2$

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0:00 4.6 Curve Sketching $f(x)=x^3+4x^2-4x-16$

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0:00 3.4 The Chain Rule $y=\sec(4x-2)+e^{7-x}+\ln(x^2-1)$

3:31 4.7 Optimization: Point on $y=\sqrt{x}$ closest to $(7,0)$

MAC2311 Calculus 1 Practice Final Exam F

0:00 2.4 Continuity: $f(x)=\frac{x^2+12x+35}{x^2-25}$

6:25 3.3 Quotient Rule: $f(x)=\frac{3x-7}{x^2+4}$

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0:00 4.7 Optimization: Vertical Poles Staked at the same point

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0:00 5.6 L'Hopitals Rule: $\lim_{x\to\infty} \frac{5x^2-4x+1}{2x^3+x-7}$

3:05 5.4 Definite Integral: $\int_{\pi/2}^{\pi/3} \csc^2 x\, dx$

7:24 2.4 Discuss Continuity $f(x)=\begin{cases} 3x-4 & x\neq 1 \\ 2 & x=4 \end{cases}$

18:30 3.1 Equation of the Tangent Line $y=\frac{-3}{x^2-4}$ at the point $(1,1)$

MAC2311 Calculus 1 Practice Final Exam I

0:00 4.3 First Derivative Test $f(x)=x\sqrt{2x+1}$

10:40 3.7 Related Rates: Expanding Cube

MAC2311 Calculus 1 Practice Final Exam J

0:00 5.2 Area: Approximate Area with 4 inscribed rectangles $y=-x+5$ on $[-7,-5]$

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0:00 7.1 Area Between Two Curves: Between $y=x^3-6x^2+8x$ and the x-axis

15:53 7.1 Area Between Two Curves $f(x)=9-x^2;$ $g(x)=x;$ $x=0;$ $x=2$

MAC2311 Calculus 1 Practice Final Exam L

0:00 5.5 Indefinite Integral using substitution: $\int \frac{1}{(5x+1)^6}dx$

3:58 5.5 Indefinite Integral using pattern recognition (power & chain rule) $\int \frac{1}{(5x+1)^6}dx$

8:47 5.1 Indefinite Integral using algebra first and the power rule $\int \frac{\sqrt{x}-2}{x^2}dx$

12:29 3.5 Logarithmic Differentiation $y=2x^{2x}$

18:01 5.2 Area: Approximate Area with 4 inscribed rectangles $y=2x+5$ on $[0,2]$

28:03 5.5 Indefinite Integral using the power rule and the chain rule: $\int \frac{2x}{(x^2-9)^3}dx$

36:01 4.7 Optimization: Translating Algebra Phrases

41:12 2.4 Discuss Continuity $f(x)=\begin{cases} x^2-1 & x\le 2 \\ -2x+7 & x>2 \end{cases}$

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0:00 5.1 Indefinite Integral using algebra first and the power rule: $\int \frac{2x^3+3x^2+x-2}{x^2}dx$

3:34 5.1 Indefinite Integral using the power rule various situations $\int \left(4x^3+\sqrt{x}+\frac{1}{x^2}\right)dx$

6:05 5.6 L'Hopitals Rule: $\lim_{x\to\infty} \frac{5x^2-4x+1}{2x^3+x-7}$

8:53 5.4 Second Fundamental Theorem of Calculus $F(x)=\int_{-3}^{x^3} (\sin t^2)\,dt$

16:07 5.1 Indefinite Integral using basic transcendental rules $\int \left(e^x+\sin x+\cos x+\frac{1}{x}\right)dx$

18:16 5.4 Definite Integral using algebra first and the power rule: $\int_0^2 x^2(2x-3)\,dx$

20:46 5.4 Definite Integral: $\int_{\pi/2}^{\pi/3} \csc^2 x\,dx$

22:50 5.6 L'Hopitals Rule: $\lim_{x\to 0} \frac{e^x-1}{\sin x}$

24:42 5.6 L'Hopitals Rule: $\lim_{x\to 0} \frac{e^x}{x^3}$