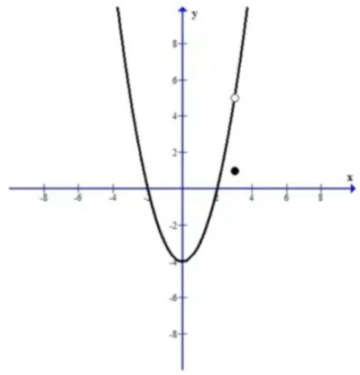
Calc 1 Test 1 Review Playlist Guide

MAC2311 Calculus 1 Test 1 Practice A

0:00 3.4 Derivative (Product and Chain) $y=x\sqrt{2x+1}$

5:50 3.2 Horizontal Tangent Line $y=-x^2-4x^2-6$

8:49 2.4 Continuity of a Graph



MAC2311 Calculus 1 Test 1 Practice B

0:00 2.4 Continuity of Rational Function $f(x)=\dfrac{x^2-9}{x^2-x-6}$

4:55 3.1 Alternative Form of the Derivative $f(x)=(x-6)^{2/3}$ c=6

MAC2311 Calculus 1 Test 1 Practice C

0:00 3.4 Derivative (Trig Double Chain) $y=\sec^2(5x)$

3:04 2.3 Limit using Special Limits $\lim\limits_{t\to 0}\dfrac{\sqrt{t+2}\sin t}{t}$

5:41 4.5 Limit at infinity $\lim\limits_{x\to\infty}\dfrac{6-x^3}{7x^3+3}$

MAC2311 Calculus 1 Test 1 Practice D

0:00 3.3 Derivative (Quotient Rule) $f(x)=\dfrac{e^x+1}{\sqrt{x}}$

5:37 2.3 Limit using Special Limits $\lim\limits_{x\to 0}\dfrac{\sin x\cos x}{x}$

7:31 2.5 One-sided Limits $\lim\limits_{x\to 0}\dfrac{\sin x\cos x}{x}$

10:13 3.4 Derivative Chain Rule with Trig Functions $y=\sin^2 x-\cos^2 x$

14:00 2.5 One-sided Limits $f(x)=\begin{cases}3x-5 & x\le 2\\ 0.5x^2 & x>2\end{cases}$

MAC2311 Calculus 1 Test 1 Practice E

0:00	3.1 Derivative (Limit Definition)	$y=\sqrt{x-5}$
6:09	3.3 Derivative (Quotient Rule)	$f(x)=\frac{3x-1}{\sqrt{x}}$

MAC2311 Calculus 1 Test 1 Practice F

0:00	3.3 Derivative (Trig Functions)	$y=\frac{3(1-\sin x)}{2\cos x}$
2:39	3.4 Derivative (Trig Double Chain)	$y=2\cot^2(\pi t+2)$
7:27	3.4 Derivative (Product and Chain)	$y=x^2\sqrt{16-x^2}$

MAC2311 Calculus 1 Test 1 Practice G

0:00	3.4 Chain Rule	$f(x)=[(x^2+3)^5+x]$
3:23	3.4 Derivative (Trig Double Chain)	$y=\cot^3(\sqrt{x})$
6:31	3.4 Derivative (Natural Log Chain)	$\frac{d}{dx}\ln(\ln(x^2))$
9:44	3.4 Derivative (Natural Log Chain)	$\frac{d}{dx}\ln(\ln(x))^2$

MAC2311 Calculus 1 Test 1 Practice H

0:00	3.4 Derivative (Logarithm)	$f(x)=\log_2(3x)$
3:28	2.5 One-sided Limits	$\lim_{x\to -2^+}[[x+5]]$
6:08	4.5 Limit at infinity	$\lim_{x\to\infty}\frac{1-x}{3x^2-7x+4}$

MAC2311 Calculus 1 Test 1 Practice I

0:00	3.4 Derivative (Chain with Power)	$y=(x^2-1)^6$
2:17	3.4 Derivative (Chain with Exponential)	$\frac{d}{dx}[e^{x^2-7}]$
3:46	3.4 Derivative (Chain with Exponential)	$\frac{d}{dx}[e^{7x-2}]$
7:28	3.3 Second Derivative	$y=xe^x$

MAC2311 Calculus 1 Test 1 Practice J

0:00	3.1 Derivative (Limit Definition)	$y=2x-3$
2:38	3.3 Derivative (Trig Rule)	$\frac{d}{dx}[\csc x]$
5:30	2.5 One-sided Limits	$f(x)=\begin{cases} 3x-5 & x\le 2 \\ 0.5x^2 & x>2 \end{cases}$
7:10	2.5 One-sided Limits	$\lim_{x\to -2^+}[[x]]$

MAC2311 Calculus 1 Test 1 Practice K

0:00	2.5 One-sided Limits	$\lim_{x\to 2}\frac{\lvert x-2\rvert}{x-2}$
3:26	3.1 Derivative (Limit Definition)	$f(x)=x^2-3x+1$
7:03	3.3 Derivative (Quotient Rule)	$y=\frac{2x}{1-3x^3}$
9:39	3.4 Derivative (Chain with Exponential)	$f(x)=7^{x^2-2}$

MAC2311 Calculus 1 Test 1 Practice L

0:00	3.4 Equation of the Tangent Line	$y=\sqrt{x+1}$ at x=3
3:51	3.4 Derivative (Product and Chain)	$y=xe^{3x-2}$
5:26	3.1 Derivative (Limit Definition)	$y=\frac{1}{x-1}$

MAC2311 Calculus 1 Test 1 Practice M

0:00	2.5 One-sided Limits	$f(x)=\begin{cases} -x & x\le 2 \\ x^2 & x>2 \end{cases}$
1:51	3.4 Derivative (Product and Chain)	$f(x)=x(2x-5)^3$
10:13	3.4 Slope at given point	$f(\theta)=4\sin\theta-\theta$

MAC2311 Calculus 1 Test 1 Practice N

0:00 2.4 Make Function Continuous

$$f(x)=\begin{cases} x+a & x\le 3 \\ x^2 & x>3 \end{cases}$$

8:22 2.2 Limit from a Table of Values

x	-0.1	-0.01	-0.001	0	0.001	0.01	0.1
$f(x)$	2.01	2.0001	2.000001	2	-2.998	-2.98	-2.8

MAC2311 Calculus 1 Test 1 Practice O

0:00 2.3 Find the Limit Using Rationalization

$$\lim_{x\to 5}\frac{\sqrt{x+11}-4}{x-5}$$

6:12 2.3 Find the Limit Using Clearing Fractions

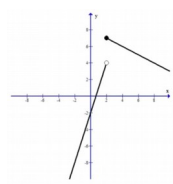
$$\lim_{x\to 5}\frac{\frac{1}{x}-\frac{1}{5}}{x-5}$$

10:39 2.3 Find the Limit Using Trig Identities

$$\lim_{x\to\frac{3\pi}{2}}\frac{\cos x}{\cot x}$$

MAC2311 Calculus 1 Test 1 Practice P

0:00 2.4 Continuity from the Graph



6:22 3.2 Horizontal Tangent Lines

$$f(x)=2x^3-5x^2-4x+3$$

11:54 2.4 Discuss Continuity

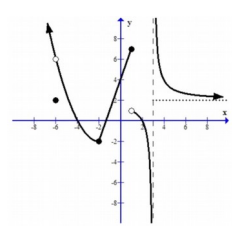
$$f(x)=\begin{cases} 3x-4 & x\ne 1 \\ 2 & x=1 \end{cases}$$

MAC2311 Calculus 1 Test 1 Practice Q

0:00 2.2 Find the Limit Graphically (one-sided) $\lim_{x\to -6^-} f(x)$

1:55 2.2 Find the Limit Graphically (at infinity) $\lim_{x\to\infty} f(x)$

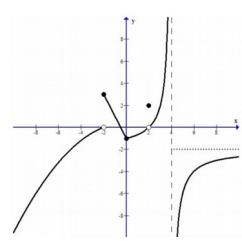
3:18 2.2 Find the Limit Graphically (at infinity) $\lim_{x\to -\infty} f(x)$



5:04 2.2 Find the Limit Graphically (one-sided) $\lim_{x\to 0^+} f(x)$

6:16 2.2 Find the Limit Graphically $\lim_{x\to -2} f(x)$

9:15 2.2 Find the Limit Graphically $\lim_{x\to 2} f(x)$



11:14 3.4 Derivative (Quotient and Chain)

$$y=\frac{x}{\sqrt{x^2+1}}$$

MAC2311 Calculus 1 Test 1 Practice R

0:00	3.4 Derivative (Product and Chain)	$y=x^3\sqrt{2x+1}$
9:22	3.3 Derivative (Quotient Rule)	$f(x)=\frac{e^x+1}{\sqrt{x}}$
16:38	3.3 Higher Order Derivatives	$y=xe^x$

MAC2311 Calculus 1 Test 1 Practice S

0:00	2.4 Discuss Continuity	$f(x)=\frac{x^2+2x-3}{x^2-9}$
6:26	3.3 Position, Velocity, Acceleration	$s(t)=-16t^2+16t+96$
11:04	3.1 Find Derivative using the Definition	$f(x)=\frac{1}{x+2}$
17:25	3.2 Derivative using Basic Rules	$f(x)=x^4+\sqrt{x}+\frac{1}{x^3}-3x+7$

MAC2311 Calculus 1 Test 1 Q&A 2/2/22

0:00	3.1 Derivative (Limit Definition)	$f(x)=2x-3$
3:30	3.1 Velocity	$s(t)=-16t^2+16t+96$
7:56	3.1 Derivative (Limit Definition)	$f(x)=\frac{1}{x+2}$

MAC2311 Calculus 1 Test 1 Q&A 2/7/22

0:00	3.4 Derivative Product Chain	$y=x^3\sqrt{2x+1}$
13:02	3.1 Equation of the tangent line	$f(x)=3x^2-4x-5$
17:14	2.4 One-sided Limits	$f(x)=\begin{cases}3x-4 & x\neq 1\\ 2 & x=1\end{cases}$
21:46	3.3 Quotient Rule	$f(x)=\frac{e^x}{x+5}$

MAC2311 Calculus 1 Test 1 Q&A 2/9/22

0:00	3.4 Derivative Chain Rule	$y=\sec(4x-2)+e^{7-x}+\ln(x^2-1)$
12:41	3.4 Derivative Chain Rule	$y=\sin^2(5x)$
15:46	3.4 Derivative Chain Rule	$y=\log_2(x^2-1)$
20:32	4.5 Limit at infinity	$\lim_{x\to\infty}\frac{2x-1}{2x^2-3x-7}$
27:03	3.5 Derivative Chain Rule	$\frac{d}{dx}[\sec^2(5x)]$
31:24	2.5 Infinite Limits	$\lim_{x\to 8}\frac{1}{x-8}$
36:04	3.4 Derivative Chain Rule	$y=\sin^2 x-\cos^2 x$
39:53	3.3 Quotient Rule	$f(x)=\frac{e^x+1}{\sqrt{x}}$
45:52	3.4 Product and Chain Rule	$f(x)=x(2x-5)^3$

MAC2311 Calculus 1 Test 1 Q&A 9/28/22

0:00	2.3 The Squeeze Theorem	$4-x^2\le f(x)\le 4+x^2$ find $\lim_{x\to 0} f(x)$
5:51	2.4 Intermediate Value Theorem	$f(x)=x^4-2x^2+3x$ on $[-2,-1]$
19:26	3.4 Derivative (Quotient and Chain)	$y=\frac{x}{\sqrt{x^2+1}}$

MAC2311 Calculus 1 Test 1 Q&A 10/08/23

0:00	3.3 Algebra First and Quotient Rule	$f(x)=x^3\left(1-\frac{4}{x+8}\right)$
6:46	3.3 Product Rule	$f(x)=(4x^3+2x)(x-2)(x+5)$

MAC2311 Calculus 1 Test 1 Q&A 2/02/24

0:00	3.3 Algebra First and Quotient Rule	$f(x)=x^3\left(1-\frac{1}{x+7}\right)$
4:14	3.2 Quotient Rule	$f(x)=\frac{8x-3}{\sqrt{x}}$
9:23	3.2 Product Rule	$f(x)=\frac{8x-3}{\sqrt{x}}$
12:46	3.3 Product Rule	$f(x)=(4x^3+2x)(x-2)(x+5)$
20:05	3.4 Chain Rule	$y=\sin(\sqrt[3]{x})+\sqrt[3]{\sin(6x)}$
29:17	3.4 Log Rule	$h(x)=\log_3\left(\frac{x\sqrt{x-6}}{6}\right)$
38:19	3.3 Quotient Rule and Slope of the tangent line	$y=\frac{5+\csc(x)}{9-\csc(x)}$ at $\left(\frac{\pi}{6},1\right)$

MAC2311 Calculus 1 Test 1 Q&A 2/07/24

0:00	2.4 Continuity	$f(x)=\begin{cases}\ln(x+1) & x\geq 0\\ 2-x^2 & x<0\end{cases}$
8:49	3.2 Slope of the graph at a point	$y=\frac{27}{x^3}$ at $(3,1)$
11:26	3.3 Product Rule and horizontal tangent line	$f(x)=7e^x\sin x$ on $[0,\pi]$
19:22	3.3 Develop a general rule	$f^{(n)}(x)$ for $f(x)=\frac{1}{x}$
27:24	3.3 Second Derivative and Product Rule	$f(x)=x\cos(x)$
30:44	3.4 Quotient Rule and Chain Rule	$y=\frac{7x}{\sqrt{x^2+9}}$

MAC2311 Calculus 1 Test 1 Q&A 2/07/24

0:00	3.4 Product Rule and Chain Rule	$f(x)=x^2\sqrt{1-x^2}$
9:23	3.4 General Power Rule or Chain Rule	$y=\sqrt[3]{9x^2+4}$
13:30	3.4 Product Rule and Chain Rule	$y=x^2e^{-9x}$

MAC2311 Calculus 1 Test 1 Q&A 2/12/24

0:00	3.3 Velocity	$s(t)=-16t^2+v_0t+s_0$
15:28	3.3 Equation of a tangent line	$f(x)=\frac{x+2}{x-2}$ at $(3,5)$
20:17	2.5 Infinite Limits and One-sided Limits	$f(x)=\frac{1}{(x-6)^2}$