

Calc 1 Test 2 Review Playlist Guide

MAC2311 Calculus 1 Test 2 Practice A

- 0:00 4.1 Extrema on an Interval $f(x) = (x+2)^{2/3}$ on the interval $[-4, -2]$
3:32 4.1 Extrema on an Interval $f(x) = x^4 - 3x^2 + 4$ on the interval $[-1, 1]$
8:20 4.1 Extrema on an Interval $y = x^4 - 2x^2 - 3$ on the interval $(0, \infty)$

MAC2311 Calculus 1 Test 2 Practice B

- 0:00 4.3 Intervals of Increasing and Decreasing $f(x) = e^{-x} + e^{3x}$

MAC2311 Calculus 1 Test 2 Practice C

- 0:00 3.5 Logarithmic Differentiation
4:30 3.5 Implicit Differentiation

$$y = x \sqrt{2x+1}$$
$$x^2 = (4x^2 y^3 + 1)^2$$

MAC2311 Calculus 1 Test 2 Practice D

- 0:00 4.6 Curve Sketching $f(x) = x^3 + 3x^2$
21:45 4.7 Optimization: Revenue/Cost/Profit

MAC2311 Calculus 1 Test 2 Practice E

- 0:00 3.6 Related Rates: Sphere
6:54 4.1 Extrema on an interval

$$f(x) = e^x - x \text{ on the interval } [-2, 2]$$

MAC2311 Calculus 1 Test 2 Practice F

- 0:00 3.5 Logarithmic Differentiation

$$y = \frac{(x+2)^2(2x-3)^3}{(3x-5)^4}$$

MAC2311 Calculus 1 Test 2 Practice G

- 0:00 4.4 Second Derivative Test
5:50 3.5 Implicit Differentiation

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

MAC2311 Calculus 1 Test 2 Practice H

- 0:00 3.5 Logarithmic Differentiation

$$y = \frac{(3x^4 - 2)^5}{(3x^3 + 4)^2}$$

MAC2311 Calculus 1 Test 2 Practice I

- 0:00 4.7 Optimization: Area
6:26 4.7 Optimization: Cost

MAC2311 Calculus 1 Test 2 Practice J

- 0:00 4.7 Optimization: Translating Mathematical Phrases
7:18 3.6 Related Rates: Cube

MAC2311 Calculus 1 Test 2 Practice K

0:00 4.2 Rolle's Theorem $f(x) = \frac{x^2 - 4}{x - 1}$ on the interval [-2,2]

3:26 4.2 Rolle's Theorem $f(x) = \frac{x^2 - 2x - 3}{x + 2}$ on the interval [-1,3]

17:03 4.2 Mean Value Theorem $f(x) = x^3$ on the interval [-1,3]

MAC2311 Calculus 1 Test 2 Practice L

0:00 3.5 Logarithmic Differentiation $y = (x^5 + 5)^2 \sqrt{2x^2 + 3}$

MAC2311 Calculus 1 Test 2 Practice M

0:00 3.5 Logarithmic Differentiation $y = 2x^{2x}$

7:47 4.2 Mean Value Theorem $f(x) = 3x - x^2$ on the interval [2,3]

MAC2311 Calculus 1 Test 2 Practice N

0:00 4.2 Rolle's Theorem $f(x) = (x-2)(x+3)^2$ on the interval [-3,2]

8:20 4.7 Optimization: Translating Mathematical Phrases

MAC2311 Calculus 1 Test 2 Practice O

0:00 4.7 Optimization: Area

5:35 4.2 Mean Value Theorem $g(x) = x^{2/3}$ on the interval [1,8]

MAC2311 Calculus 1 Test 2 Practice P

0:00 4.3 First Derivative Test (Critical Numbers, Increasing Decreasing, Extrema)

$$f(x) = (x^2 - 1)^{2/3}$$

12:35 4.4 Concavity and Points of Inflection $f(x) = \frac{24}{x^2 + 12}$

MAC2311 Calculus 1 Test 2 Practice Q

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

31:36 4.7 Optimization: Area

38:24 3.4 Derivative (Quotient and Chain) $y' = \frac{-3(x^2 + 1)}{(x^2 - 1)^2}$

43:35 4.7 Optimization: Translating Mathematical Phrases

MAC2311 Calculus 1 Test 2 Practice R

0:00 4.3 Compare First Derivative and Second Derivative Tests $f(x) = x^3 + 3x^2$

10:57 3.5 Logarithmic Differentiation $y = 4x^{x^4}$

21:41 4.1 Extrema on an Interval $f(x) = 2x^3 - 5x^2 - 4x + 3$ on the interval [-1,4]

28:16 4.2 Rolle's Theorem $f(x) = 2x^3 - 5x^2 - 4x + 3$ on the interval [-1,3]