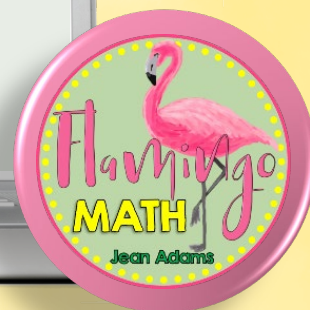
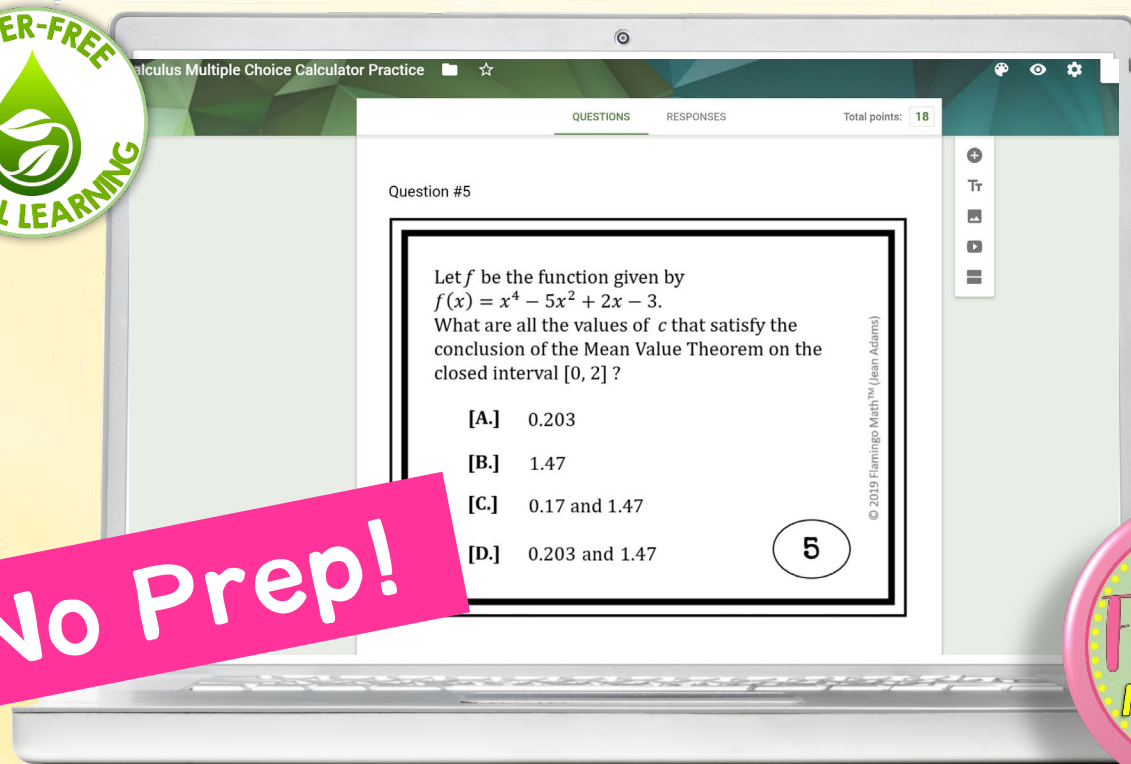


AP[®] Calculus Multiple Choice Calculator Practice



Digital and Printable

AP Calculus Multiple Choice Calculator Practice for Google Drive™

A culture of mold doubles its mass every three days. Find the growth model for a petri dish that initially contains 1.2 grams of mold.

- [A.] $y = 1.2 e^{0.54931t}$
- [B.] $y = 1.2 e^{0.23856t}$
- [C.] $y = 1.2 e^{0.23105t}$
- [D.] $y = 1.2 e^{0.10034t}$

1

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The integral $\int_a^b [(\sin x + 2) - e^{x^2}] dx$ computes the area of a region between two curves. Estimate the value of a .

- [A.] 1.0
- [B.] -0.6
- [C.] 0.6
- [D.] 3.1

2

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How many zeros are found on the interval $0.05 \leq x \leq 2$ for the function $f(x) = \sin\left(\frac{1}{x}\right)$?

- [A.] 6
- [B.] 5
- [C.] 4
- [D.] 3

3

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Find the largest value of x on the interval $[1, 3]$ such that

$$\int_2^x (t^2 + 3t) dt \leq \int_1^x (t^3 - t^2) dt$$

- [A.] 1.82
- [B.] 2.05
- [C.] 2.24
- [D.] 2.43

4

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Let f be the function given by $f(x) = x^4 - 5x^2 + 2x - 3$.

What are all the values of c that satisfy the conclusion of the Mean Value Theorem on the closed interval $[0, 2]$?

- [A.] 0.203
- [B.] 1.47
- [C.] 0.17 and 1.47
- [D.] 0.203 and 1.47

5

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When $\int_{-1}^5 \sqrt{x^3 - x + 2} dx$ is approximated by using the mid-points of 3 rectangles of equal width, then the approximation is nearest to

- [A.] 19.262
- [B.] 28.774
- [C.] 24.233
- [D.] 24.634

6

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The slope of the function $\int_0^x \cos^{-1}(t) dt$
when $x = 0.4$ is

- [A.] 1.159
- [B.] 0.921
- [C.] 0.547
- [D.] -1.091

7

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Let f be a function which is continuous on $[0, 10]$ and
whose derivative is given by $f'(x) = \frac{\sin x}{\ln(x+1)}$. Which of the
following are true about $f(x)$ on the interval $[0, 10]$?

- I. $f(x)$ always increases or always decreases.
- II. $f(x)$ has a relative maximum, not at an endpoint.
- III. $f(x)$ has three points of inflection.

- [A.] II only
- [B.] III only
- [C.] II and III only
- [D.] I, II, and III

8

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Let $f(x) = \int_0^x (1 - 2\sin^3 t) dt$
for $[0, 2\pi]$. On which interval is f decreasing?

- [A.] $0 < x < \frac{\pi}{2}$
- [B.] $0.916 < x < 2.224$
- [C.] $2.224 < x < 2\pi$
- [D.] $\frac{3\pi}{2} < x < 2\pi$

9

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The average value of $y = x \ln x^2$ on the
interval $1 \leq x \leq e$ is

- [A.] 2.441
- [B.] 1.421
- [C.] 1.745
- [D.] 4.194

10

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A particle moves along the x -axis with velocity at
time t given by $v(t) = t + 2 \sin t$. If the particle
is at the origin when $t = 0$, its position at the
time when $v(t) = 6$ is $x =$

- [A.] 17.159
- [B.] 19.158
- [C.] 23.181
- [D.] 29.203

11

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Find the total area between the graph of the
curve $f(x) = x^3 - 5x^2 + 4x$ and the x -axis

- [A.] 11.743 units²
- [B.] 11.774 units²
- [C.] 11.803 units²
- [D.] 11.833 units²

12

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AP Calculus Multiple Choice Calculator Practice for Google Drive™

The region in the first quadrant enclosed by the graphs of $y = \sqrt{x}$, $x = 4$, and $y = 0$ is revolved about the x -axis. A vertical line $x = k$, divides the solid into parts of equal volume. Find the value of k .

- [A.] 2.77
- [B.] 2.80
- [C.] 2.83
- [D.] 2.86

13

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Find the y -intercept of the line tangent to $y = (x^3 - 4x^2 + 8)e^{\sin x^2}$ at $x = 2$.

- [A.] -1.876
- [B.] 3.7533
- [C.] 0
- [D.] 27.626

14

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If the region enclosed by the y -axis and the relation $x = 4 - y^2$ is revolved about the y -axis, the volume of the solid generated is

- [A.] 25.133
- [B.] 53.617
- [C.] 33.510
- [D.] 107.233

15

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If $f(x) = \cos(x - \cos x)$, what is the smallest positive value of x for which the tangent line is parallel to the x -axis?

- [A.] 0.739
- [B.] 1.571
- [C.] 2.403
- [D.] 4.712

16

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Find the area of the region bounded by the graphs of $f(x) = x^3 + 4x^2 - 12x$ and $g(x) = -x^2 + 2x$.

- [A.] 10.667
- [B.] 303.750
- [C.] 325.083
- [D.] 628.833

17

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Two boats leave Port Canaveral at the same time, one boat travels north at 15 knots per hour and the other travels east at 12 knots per hour. How fast is the distance between the two boats changing after two hours?

- [A.] 26.8 knots/hr
- [B.] 17.7 knots/hr
- [C.] 38.4 knots/hr
- [D.] 19.2 knots/hr

18

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Every page in the activity is an independent question. This helps the student focus on each prompt and gives a nice experience as they work through the assignment.

There are blackline masters that can be printed for your needs.

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C. 0.17 and 1.47 D. 0.203 and 1.47

5

Or, have your students record answers on a Google Form for easy instant grading.

Students can answer prompts directly on the Slides in Google Drive and submit

Blackline Masters, too!

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8