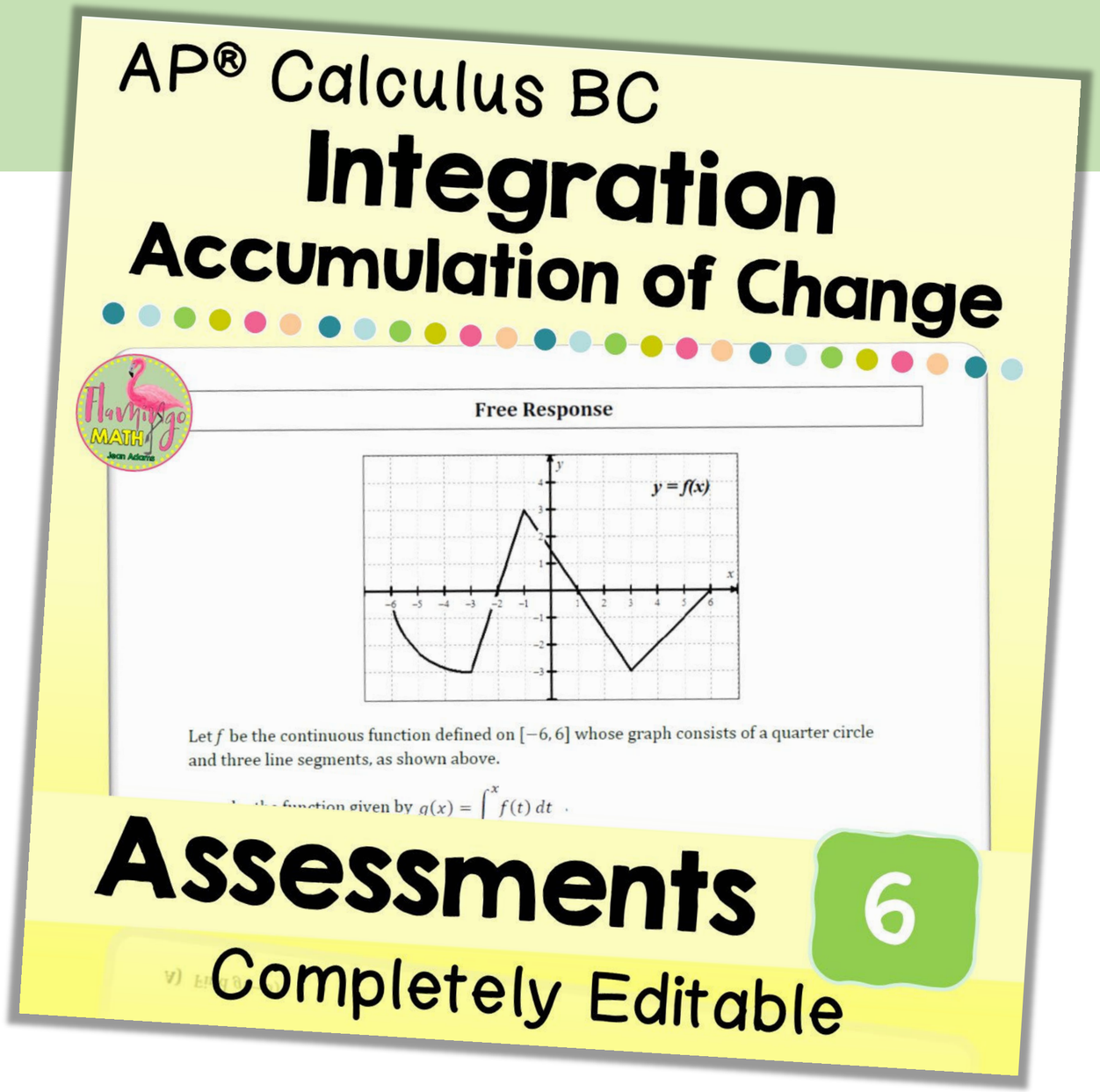
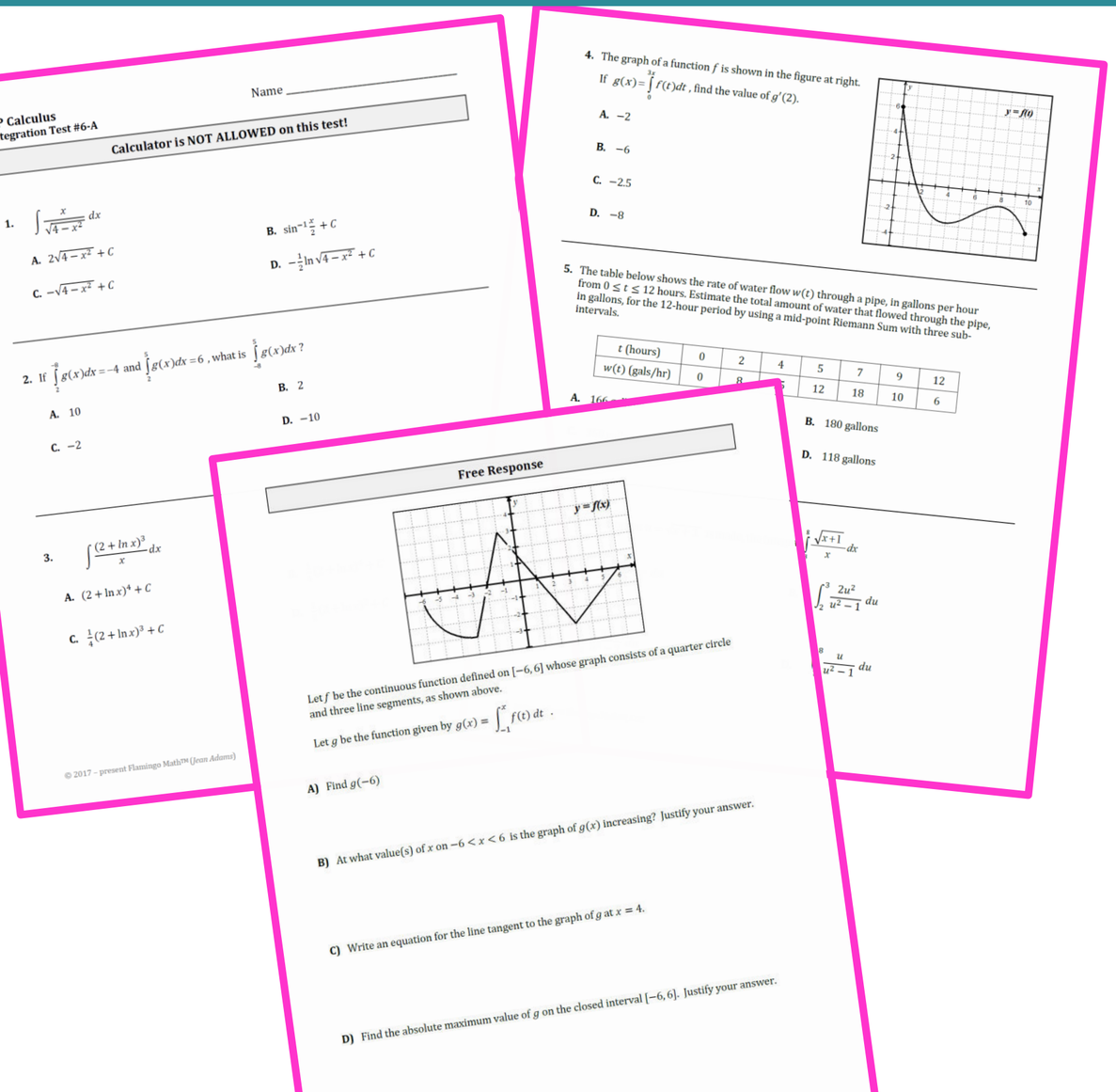
Are you searching for AP-Style Assessments?

All new editable assessments and so much more to save you time

Take a look inside!



Rigorous assessments aligned to course standards is here.


Calculus
tegration Test #6-A

Name

Calculator is NOT ALLOWED on this test!

1. $\int \frac{x}{\sqrt{4-x^2}}\,dx$

A. $2\sqrt{4-x^2}+C$

B. $\sin^{-1}\frac{x}{2}+C$

C. $-\sqrt{4-x^2}+C$

D. $-\frac{1}{2}\ln\sqrt{4-x^2}+C$

2. If $\int_2^{-8} g(x)dx=-4$ and $\int_2^5 g(x)dx=6$, what is $\int_{-8}^5 g(x)dx$?

A. 10

B. 2

C. -2

D. -10

3. $\int \frac{(2+\ln x)^3}{x}dx$

A. $(2+\ln x)^4+C$

C. $\frac{1}{4}(2+\ln x)^3+C$

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4. The graph of a function f is shown in the figure at right. If $g(x)=\int_0^{3x} f(t)dt$, find the value of $g'(2)$.

A. -2

B. -6

C. -2.5

D. -8

y = f(t)

5. The table below shows the rate of water flow $w(t)$ through a pipe, in gallons per hour from $0 \le t \le 12$ hours. Estimate the total amount of water that flowed through the pipe, in gallons, for the 12-hour period by using a mid-point Riemann Sum with three sub-intervals.

t (hours)	0	2	4	5	7	9	12
$w(t)$ (gals/hr)	0	8	[illegible]	12	18	10	6

A. 166 [illegible]

B. 180 gallons

D. 118 gallons

$\int_2^8 \frac{\sqrt{x+1}}{x}dx$

$\int_2^3 \frac{2u^2}{u^2-1}du$

$\int_2^3 \frac{u}{u^2-1}du$

Free Response

y = f(x)

Let f be the continuous function defined on $[-6, 6]$ whose graph consists of a quarter circle and three line segments, as shown above.

Let g be the function given by $g(x)=\int_{-1}^{x} f(t)\,dt$.

A) Find $g(-6)$

B) At what value(s) of x on $-6 < x < 6$ is the graph of $g(x)$ increasing? Justify your answer.

C) Write an equation for the line tangent to the graph of g at $x = 4$.

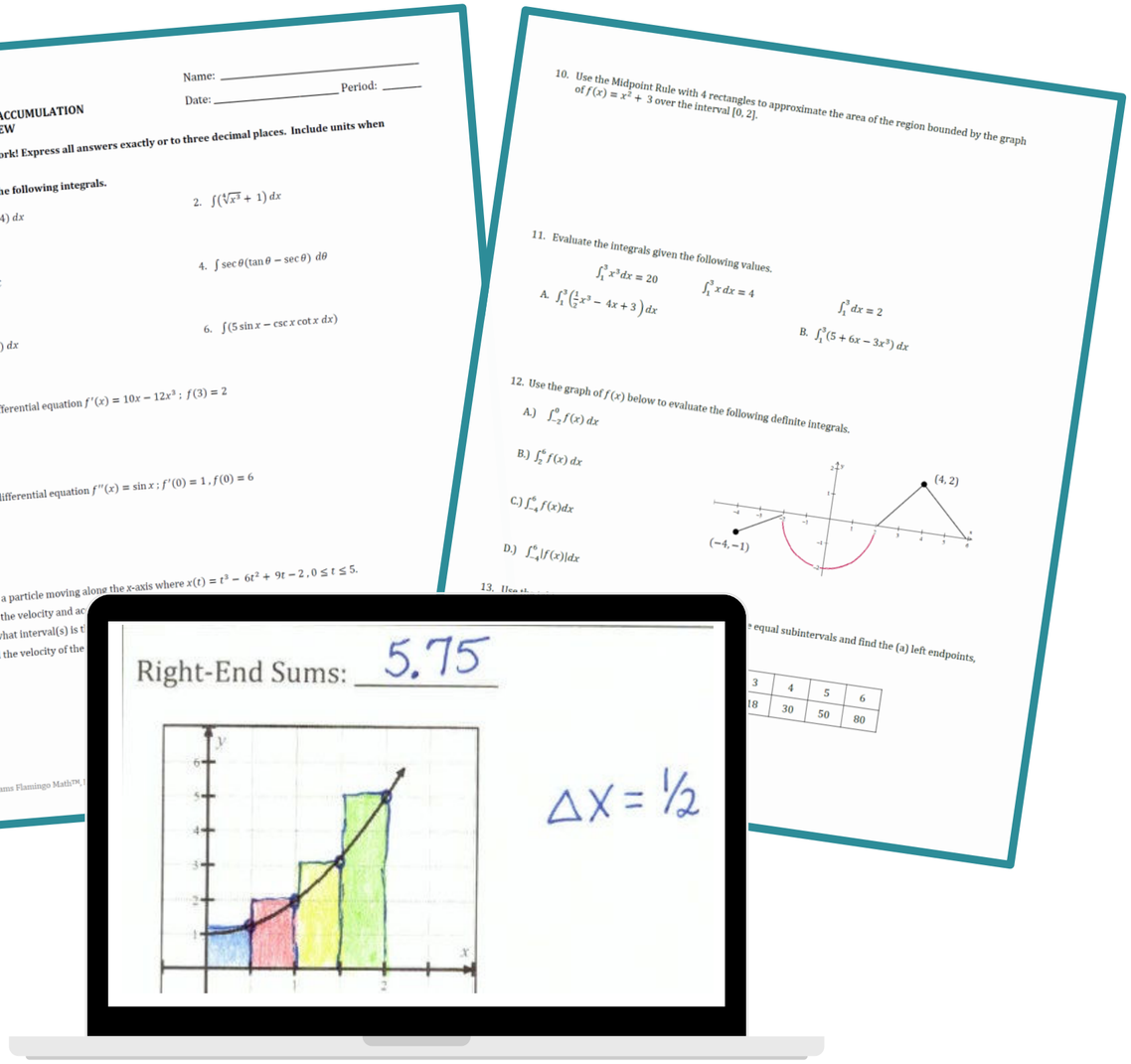
D) Find the absolute maximum value of g on the closed interval $[-6, 6]$. Justify your answer.

- Where do you find extra time to write AP-Style assessments?
- Is your class instruction aligned to the new learning objectives and topics?
- You need assessments that will challenge your students to the AP® rigor for success.

Flamingo Math will be your silent testing partner!

Flamingo Math by Jean Adams

WHAT IS INCLUDED?



- Editable Review assignments
- Editable assessments
- Full solution sets
- Extra Practice Topics
- Scope and Sequence

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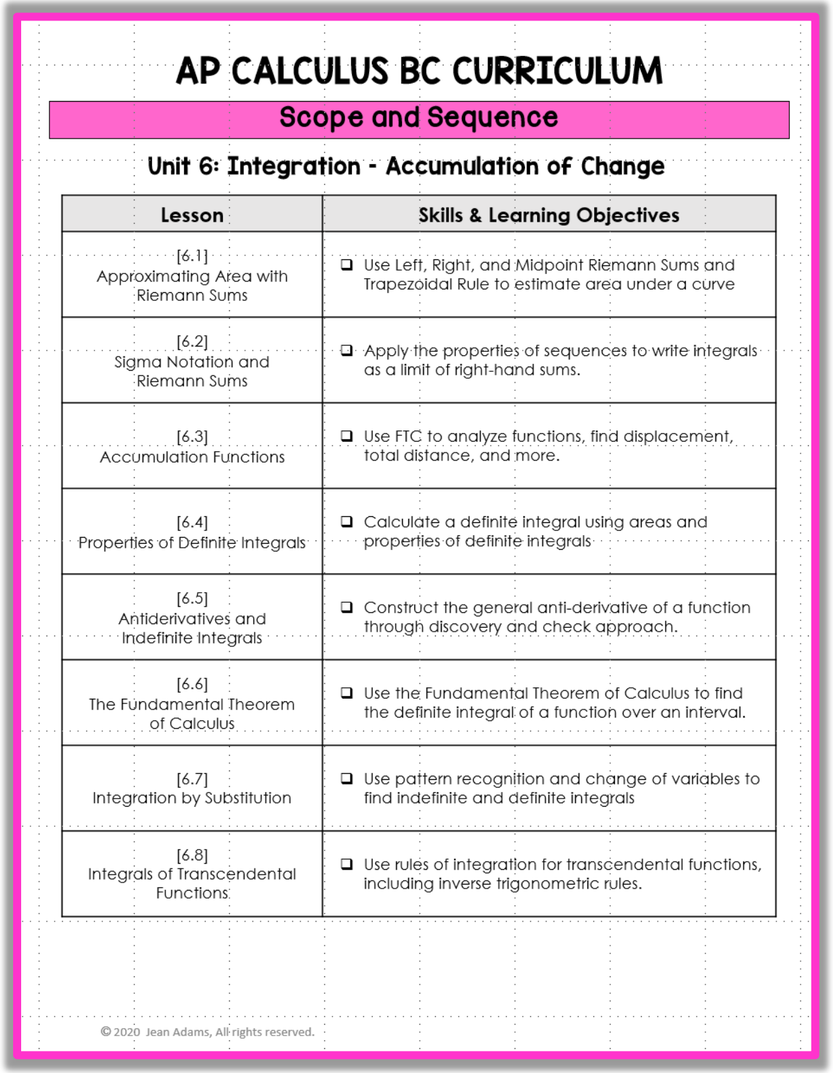
Cover the Standards

Each assessment will provide you and your students with the skills and learning objectives necessary for success in the AP Environment.

- ❑ You will find a scope and sequence document to track the learning objectives for the unit.
- ❑ Each quiz and test is available in two unique forms.
- ❑ You will also have a ***fully-editable version*** for every review, quiz and test to create extra assessment tools.
- ❑ A pacing guide for both AB and BC lessons and testing schedule.



AP CALCULUS BC CURRICULUM

Scope and Sequence

Unit 6: Integration - Accumulation of Change

Lesson	Skills & Learning Objectives
[6.1] Approximating Area with Riemann Sums	❑ Use Left, Right, and Midpoint Riemann Sums and Trapezoidal Rule to estimate area under a curve
[6.2] Sigma Notation and Riemann Sums	❑ Apply the properties of sequences to write integrals as a limit of right-hand sums.
[6.3] Accumulation Functions	❑ Use FTC to analyze functions, find displacement, total distance, and more.
[6.4] Properties of Definite Integrals	❑ Calculate a definite integral using areas and properties of definite integrals
[6.5] Antiderivatives and Indefinite Integrals	❑ Construct the general anti-derivative of a function through discovery and check approach.
[6.6] The Fundamental Theorem of Calculus	❑ Use the Fundamental Theorem of Calculus to find the definite integral of a function over an interval.
[6.7] Integration by Substitution	❑ Use pattern recognition and change of variables to find indefinite and definite integrals
[6.8] Integrals of Transcendental Functions	❑ Use rules of integration for transcendental functions, including inverse trigonometric rules.

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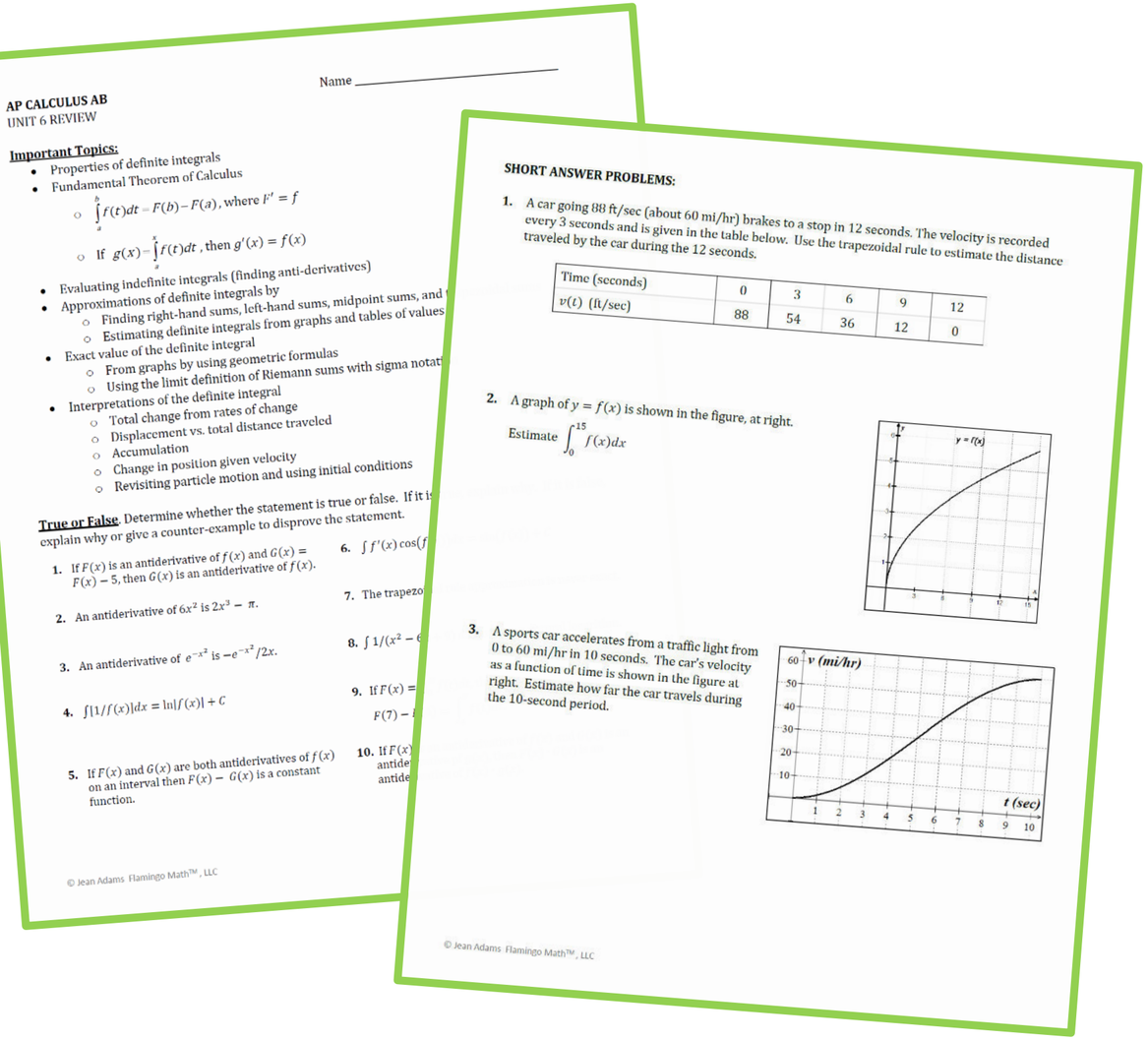
Early Reviews from Happy Teachers!



AP CALCULUS AB
UNIT 6 REVIEW

Name _____

Important Topics:

- Properties of definite integrals
- Fundamental Theorem of Calculus
  - $\int_a^b f(t)dt = F(b) - F(a)$, where $F' = f$
  - If $g(x) = \int_a^x f(t)dt$, then $g'(x) = f(x)$
- Evaluating indefinite integrals (finding anti-derivatives)
- Approximations of definite integrals by
  - Finding right-hand sums, left-hand sums, midpoint sums, and
  - Estimating definite integrals from graphs and tables of values
- Exact value of the definite integral
  - From graphs by using geometric formulas
  - Using the limit definition of Riemann sums with sigma notat
- Interpretations of the definite integral
  - Total change from rates of change
  - Displacement vs. total distance traveled
  - Accumulation
  - Change in position given velocity
  - Revisiting particle motion and using initial conditions

True or False. Determine whether the statement is true or false. If it i explain why or give a counter-example to disprove the statement.

1. If $F(x)$ is an antiderivative of $f(x)$ and $G(x) = F(x) - 5$, then $G(x)$ is an antiderivative of $f(x)$.
2. An antiderivative of $6x^2$ is $2x^3 - \pi$.
3. An antiderivative of e^{-x^2} is $-e^{-x^2}/2x$.
4. $\int |1/f(x)|dx = \ln|f(x)| + C$
5. If $F(x)$ and $G(x)$ are both antiderivatives of $f(x)$ on an interval then $F(x) - G(x)$ is a constant function.
6. $\int f'(x)\cos(f$
7. The trapezo
8. $\int 1/(x^2 -$
9. If $F(x) =$ $F(7) -$
10. If $F(x)$ antide antide

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SHORT ANSWER PROBLEMS:

1. A car going 88 ft/sec (about 60 mi/hr) brakes to a stop in 12 seconds. The velocity is recorded every 3 seconds and is given in the table below. Use the trapezoidal rule to estimate the distance traveled by the car during the 12 seconds.

Time (seconds)	0	3	6	9	12
$v(t)$ (ft/sec)	88	54	36	12	0

2. A graph of $y = f(x)$ is shown in the figure, at right.
   Estimate $\int_0^{15} f(x)dx$

3. A sports car accelerates from a traffic light from 0 to 60 mi/hr in 10 seconds. The car's velocity as a function of time is shown in the figure at right. Estimate how far the car travels during the 10-second period.

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> "I love these assessments! They are rigorous and have multiple versions to use. *Michelle P.*"

> "Very comprehensive! I like having the option of AP and non-AP assessments. *Abby M.*"

> "I love the way that you set up the test (AP Style) It is hard to find good assessments for the students. Your tests are a big help! *Monica B.*"

Full Year Curriculum

The MEGA Bundle provides eight units for the entire AP Calculus BC course, including activities, video lessons, presentation tools, and so much more.

- Save over 20% when you purchase the full year curriculum bundle.
- Let Flamingo Math help you teach!

> “Excellent resource to prepare for the AP Calc Exam. Just finished an AP workshop and am really impressed how aligned this bundle is for getting the Calculus taught. Thank you fir all the hard work put into it. It’s a fabulous resource. *Linda A.*”

