



# CW High School

## AP Calculus C

### 1. Unit 9--Unfinished Business (25.00%)

#### Learning Targets

#### 1.1 I can predict the net change and the total accumulation of a function over time.

Learning Target	Descriptor	Definition
4	Proficient	I can predict the net change and the total accumulation of a function over time.
3	Developing	I can recognize that the integral of a rate function yields the total change in the function over an interval
2	Basic	I can analyze a function to determine the direction of motion, acceleration, velocity, displacement and distance travelled
1	Minimal	I can use the graph of a velocity function to predict the direction of motion, displacement, and total distance travelled.
0	No Evidence	No evidence shown.

#### 1.2 I can apply the definition of an integral to compute the area of complex regions in a plane with respect to the x and y axis.

Learning Target	Descriptor	Definition
4	Proficient	I can apply the definition of an integral to compute the area of complex regions in a plane with respect to the x and y axis.
3	Developing	I can find the area of a complex region by breaking it up into more than one region or integrating with respect to the y axis instead of the x axis .
2	Basic	I can use a graphing calculator to evaluate the area of a complex region by subtracting two integrals or integrating the subtraction of one integral.
1	Minimal	I can write and analyze an integral expression for the area of a region enclosed by multiple graphs using intersections as limits of integration.
0	No Evidence	No evidence shown.

#### 1.3 I can find the volumes of regions rotated about any axis or perpendicular to any axis.

Learning Target	Descriptor	Definition
4	Proficient	I can find the volumes of regions rotated about any axis or perpendicular to any axis.
3	Developing	I can write an integral expression for a geometric solid formed perpendicular to an axis.
2	Basic	I can use a graphing calculator to evaluate an integral expression for a solid formed by revolving around the x or y axis.
1	Minimal	I can write an integral expression for a solid rotated around the x or y axis.


  
 Edit page

# CW High School

## AP Calculus C

Learning Target	Descriptor	Definition
0	No Evidence	No evidence shown.

### 1.4 I can use the law of exponential change to separate variables and solve a growth or decay problem.

Learning Target	Descriptor	Definition
4	Proficient	I can use the law of exponential change to separate variables and solve a growth or decay problem.
3	Developing	I can write an equation to model a growth or decay function utilizing separation of variables.
2	Basic	I utilize a growth or decay constant to find further values of a function or half lives.
1	Minimal	I can calculate a growth or decay constant using half life or other data.
0	No Evidence	No evidence shown.

### 1.5 I can formulate an integral expression and find the length of a curve in a specific interval.

Learning Target	Descriptor	Definition
4	Proficient	I can formulate an integral expression and find the length of a curve in a specific interval.
3	Developing	I can analytically find the length of a curve.
2	Basic	I can use a graphing calculator to analyze an integral expression for the length of a curve.
1	Minimal	I can set up an integral expression for the length of a curve.
0	No Evidence	No evidence shown.

### 1.6 I can use L'Hopital's Rule to evaluate indeterminate form limits.

Learning Target	Descriptor	Definition
4	Proficient	I can use L'Hopital's Rule to evaluate indeterminate form limits.
3	Developing	I can recognize when L'Hopital's Rule will fail to work.
2	Basic	I can use L'Hopital's Rule to evaluate a limit of a quotient of the form $\infty/\infty$ .
1	Minimal	I can use L'Hopital's Rule to evaluate a limit of a quotient of the form $0/0$
0	No Evidence	No evidence shown.

## 2. Unit 10--Free Response AP (40.00%)

### Learning Targets


  
 Edit page

# CW High School

## AP Calculus C

2.1 I can solve an AP free response problem involving areas of complex regions, volumes of regions revolved or perpendicular to any axis, and with more than 60% of the points according to the AP scoring guidelines.

Learning Target	Descriptor	Definition
4	Proficient	I can solve an AP free response problem involving areas of complex regions, volumes of regions revolved or perpendicular to any axis, and with more than 60% of the points according to the AP scoring guidelines.
3	Developing	I can solve an AP free response problem involving areas of complex regions, volumes of regions revolved or perpendicular to any axis, and with between 33% and 54% of the points according to the AP scoring guidelines.
2	Basic	1. I can solve an AP free response problem involving areas of complex regions, volumes of regions revolved or perpendicular to any axis, and with between 22% and 32% of the points according to the AP scoring guidelines.
1	Minimal	I can solve an AP free response problem involving areas of complex regions, volumes of regions revolved or perpendicular to any axis, and with between 11% and 21% of the points according to the AP scoring guidelines.
0	No Evidence	No evidence shown.

2.2 I can solve an AP free response problem involving slope fields, initial conditions, and separation of variables with more than 60% of the points according to the AP scoring guidelines.

Learning Target	Descriptor	Definition
4	Proficient	I can solve an AP free response problem involving slope fields, initial conditions, and separation of variables with more than 60% of the points according to the AP scoring guidelines.
3	Developing	I can solve an AP free response problem involving slope fields, initial conditions, and separation of variables with between 33% and 54% of the points according to the AP scoring guidelines.
2	Basic	2. I can solve an AP free response problem involving slope fields, initial conditions, and separation of variables with between 22% and 32% of the points according to the AP scoring guidelines.
1	Minimal	2. I can solve an AP free response problem involving slope fields, initial conditions, and separation of variables with between 11% and 21% of the points according to the AP scoring guidelines.
0	No Evidence	No evidence shown.

2.3 I can solve an AP free response problem involving data and area approximation, to find the average value of a function, approximate slope at points, tangent lines and change with more than 60% of the points according to scoring guidelines.

Learning Target	Descriptor	Definition
-----------------	------------	------------


  
 Edit page

# CW High School

## AP Calculus C

Learning Target	Descriptor	Definition
4	Proficient	I can solve an AP free response problem involving data and area approximation, to find the average value of a function, approximate slope at points, tangent lines and change with more than 60% of the points according to scoring guidelines.
3	Developing	I can solve an AP free response problem involving data and area approximation, to find the average value of a function, approximate slope at points, tangent lines and change with at least 33% of the points according to scoring guidelines.
2	Basic	I can solve an AP free response problem involving data and area approximation, to find the average value of a function, approximate slope at points, tangent lines and change with at least 22% of the points according to scoring guidelines.
1	Minimal	I can solve an AP free response problem involving data and area approximation, to find the average value of a function, approximate slope at points, tangent lines and change with at least 11% of the points according to scoring guidelines.
0	No Evidence	No evidence shown.

**2.4 I can solve an AP free response problem involving a position or rate function, to find total change, slopes at points, displacement, average value, motion, and distance travelled with at least 60% of the points according to scoring guidelines.**

Learning Target	Descriptor	Definition
4	Proficient	I can solve an AP free response problem involving a position or rate function, to find total change, slopes at points, displacement, average value, motion, and distance travelled with at least 60% of the points according to scoring guidelines.
3	Developing	I can solve an AP free response problem involving a position or rate function, to find total change, slopes at points, displacement, average value, motion, and distance travelled with at least 33% of the points according to scoring guidelines.
2	Basic	I can solve an AP free response problem involving a position or rate function, to find total change, slopes at points, displacement, average value, motion, and distance travelled with at least 22% of the points according to scoring guidelines.
1	Minimal	I can solve an AP free response problem involving a position or rate function, to find total change, slopes at points, displacement, average value, motion, and distance travelled with at least 11% of the points according to scoring guidelines.
0	No Evidence	No evidence shown.

**2.5 I can solve an AP free response problem involving a velocity/time graph or other derivative graph to find acceleration, speed, distance, displacement, critical points, and concavity with more than 60% of the points according to scoring guidelines.**

Learning Target	Descriptor	Definition
4	Proficient	I can solve an AP free response problem involving a velocity/time graph or other derivative graph to find acceleration, speed, distance, displacement, critical points, and concavity with more than 60% of the points according to scoring guidelines.



# CW High School

## AP Calculus C

Learning Target	Descriptor	Definition
3	Developing	I can solve an AP free response problem involving a velocity/time graph or other derivative graph to find acceleration, speed, distance, displacement, critical points, and concavity with more than 33% of the points according to scoring guidelines.
2	Basic	I can solve an AP free response problem involving a velocity/time graph or other derivative graph to find acceleration, speed, distance, displacement, critical points, and concavity with more than 22% of the points according to scoring guidelines.
1	Minimal	I can solve an AP free response problem involving a velocity/time graph or other derivative graph to find acceleration, speed, distance, displacement, critical points, and concavity with more than 11% of the points according to scoring guidelines.
0	No Evidence	No evidence shown.

**2.6 I can solve an AP free response problem involving related rates with more than 60% of the points according to the AP scoring guidelines.**

Learning Target	Descriptor	Definition
4	Proficient	I can solve an AP free response problem involving related rates with more than 60% of the points according to the AP scoring guidelines.
3	Developing	I can solve an AP free response problem involving related rates with more than 33% of the points according to the AP scoring guidelines.
2	Basic	I can solve an AP free response problem involving related rates with more than 22% of the points according to the AP scoring guidelines.
1	Minimal	I can solve an AP free response problem involving related rates with more than 11% of the points according to the AP scoring guidelines.
0	No Evidence	No evidence shown.

**2.7 I can solve an AP free response problem involving the fundamental theorem of calculus with an initial condition, and the derivative and second derivative of it with more than 60% of the points according to scoring guidelines.**

Learning Target	Descriptor	Definition
4	Proficient	I can solve an AP free response problem involving the fundamental theorem of calculus with an initial condition, and the derivative and second derivative of it with more than 60% of the points according to scoring guidelines.
3	Developing	I can solve an AP free response problem involving the fundamental theorem of calculus with an initial condition, and the derivative and second derivative of it with more than 33% of the points according to scoring guidelines.
2	Basic	I can solve an AP free response problem involving the fundamental theorem of calculus with an initial condition, and the derivative and second derivative of it with more than 22% of the points according to scoring guidelines.


  
 Edit page

# CW High School

## AP Calculus C

Learning Target	Descriptor	Definition
1	Minimal	I can solve an AP free response problem involving the fundamental theorem of calculus with an initial condition, and the derivative and second derivative of it with more than 11% of the points according to scoring guidelines.
0	No Evidence	No evidence shown.

**2.8 I can solve an AP free response problem involving a function, its first and second derivatives, tangent lines, critical points, and the max and min values of it in an interval with more than 60% of the points according to scoring guidelines.**

Learning Target	Descriptor	Definition
4	Proficient	I can solve an AP free response problem involving a function, its first and second derivatives, tangent lines, critical points, and the max and min values of it in an interval with more than 60% of the points according to scoring guidelines.
3	Developing	I can solve an AP free response problem involving a function, its first and second derivatives, tangent lines, critical points, and the max and min values of it in an interval with more than 33% of the points according to scoring guidelines.
2	Basic	I can solve an AP free response problem involving a function, its first and second derivatives, tangent lines, critical points, and the max and min values of it in an interval with more than 22% of the points according to scoring guidelines.
1	Minimal	I can solve an AP free response problem involving a function, its first and second derivatives, tangent lines, critical points, and the max and min values of it in an interval with more than 11% of the points according to scoring guidelines.
0	No Evidence	No evidence shown.



# CW High School

## AP Calculus C

### 3. The Multiple Choice Exam (35.00%)

#### Learning Targets

3.1 I can correctly answer more than 60% of the problems on an AP Calculus Multiple Choice exam without using a graphing calculator.

Learning Target	Descriptor	Definition
4	Proficient	I can correctly answer more than 60% of the problems on an AP Calculus Multiple Choice exam without using a graphing calculator.
3	Developing	I can correctly answer more than 40% of the problems on an AP Calculus Multiple Choice exam without using a graphing calculator.
2	Basic	I can correctly answer more than 25% of the problems on an AP Calculus Multiple Choice exam without using a graphing calculator.
1	Minimal	I can correctly answer more than 10% of the problems on an AP Calculus Multiple Choice exam without using a graphing calculator.
0	No Evidence	No evidence shown.

3.2 I can correctly answer more than 60% of the problems on an AP Calculus Multiple Choice exam using a graphing calculator.

Learning Target	Descriptor	Definition
4	Proficient	I can correctly answer more than 60% of the problems on an AP Calculus Multiple Choice exam using a graphing calculator.
3	Developing	I can correctly answer more than 40% of the problems on an AP Calculus Multiple Choice exam using a graphing calculator.
2	Basic	I can correctly answer more than 25% of the problems on an AP Calculus Multiple Choice exam using a graphing calculator.
1	Minimal	I can correctly answer more than 10% of the problems on an AP Calculus Multiple Choice exam using a graphing calculator.
0	No Evidence	No evidence shown.

Submitted on 2/17/2020 by Bill Munch